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FLORA AUSTRALIENSIS.

FLORA AUSTRALIENSIS:

A DESCRIPTION

OF THE

PLANTS OF THE AUSTRALIAN TERRITORY.

BY

GEORGE BENTHAM, F.R.S., P.L.S.,

ASSISTED BY

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GOVERNMENT BOTANIST, MELBOURNE, VICTORIA.

VOL. IV.

STYLIDIEÆ TO PEDALINEÆ.



PUBLISHED UNDER THE AUTHORITY OF THE SEVERAL GOVERNMENTS
OF THE AUSTRALIAN COLONIES.



LONDON:

L. REEVE & CO., 5, HENRIETTA STREET, COVENT GARDEN.

1869.

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BY

GEORGE ENGELMANN F.R.S. &c.

WITH

EXPLANATIONS BY THE AUTHOR.

AND



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CONSPECTUS OF THE ORDERS CONTAINED IN THE FOURTH VOLUME.

CLASS I. DICOTYLEDONS.

SUBCLASS II. MONOPETALÆ.

(Continued from Vol. III.)

(*Ovary inferior in the first three Orders, in some Ericaceæ, Myrsinæ, Styracaceæ, and Gesneriaceæ, superior in the others.*)

LXIII. STYLIDIÆ. Herbs or rarely undershrubs. Leaves radical or scattered, or in whorl-like clusters. Flowers irregular or rarely regular, the fifth lobe of the corolla usually smaller or different from the other four. *Stamens 2, the filaments connate with the style in a column free from the corolla* (anthers sessile on the top of the style). Ovary inferior, wholly or partially 2-celled. Seeds albuminous.

LXIV. GOODENOVIÆ. Herbs or shrubs. Leaves alternate or radical. Flowers more or less irregular. Stamens 5. Ovary inferior, at least as to the corolla, 2-celled or rarely 1-celled. *Style with a cup-shaped or peltate indusium under the stigma.* Seeds albuminous.

LXV. CAMPANULACÆ. Herbs, usually with a milky juice. Leaves alternate. Flowers irregular or regular. Corolla-lobes valvate. Stamens usually free from the corolla, as many as its lobes and alternating with them. Ovary more or less inferior, with 2 to 5 many-ovulate cells. Seeds albuminous.

LXVI. ERICACÆ. Shrubs. Leaves alternate. Flowers regular. Stamens usually free from the corolla, twice as many as its lobes. *Anthers 2-celled, opening in terminal pores* (except in *Wittsteinia*). Ovary inferior or superior, with as many cells as corolla-lobes (fewer in *Wittsteinia*). Seeds albuminous.

LXVII. EPACRIDÆ. Shrubs. Leaves usually alternate, rigid and striate. Flowers regular. Stamens as many as corolla-lobes and alternate with them, or rarely fewer. *Anthers 1-celled.* Ovary superior, with 5 or fewer cells. Seeds albuminous.

LXVIII. PLUMBAGINÆ. Herbs or rarely shrubs. Leaves radical or alternate. Flowers regular. Calyx tubular. Stamens 5, opposite to the corolla-lobes or petals. Ovary 1-celled, *with 1 ovule suspended from a free filiform placenta; styles or style-branches 5.* Seeds rarely albuminous.

LXIX. PRIMULACÆ. Herbs. Leaves radical or alternate, rarely whorled. Flowers regular. Stamens as many as corolla-lobes and opposite to them. Ovary 1-celled, with peltate ovules attached to a free central placenta. Fruit usually dehiscent. Seeds albuminous.

LXX. MYRSINÆ. Trees or shrubs. Leaves alternate, usually dotted. Flowers regular. Stamens as many as corolla-lobes and opposite to them. Ovary 1-celled, with peltate ovules attached to a free central placenta. Fruit succulent or hard, usually indehiscent. Seeds rarely without albumen.

LXXI. SAPOTACÆ. Trees or shrubs, the juice often milky. Leaves alternate. Flowers regular. Corolla-lobes as many or twice as many as calyx-segments. Stamens as many as corolla-lobes and opposite to them, or twice as many. Ovary 2- or more-celled, with 1

ovule in each cell. Fruit succulent or hard, usually indehiscent. Seeds with or without albumen.

LXXII. EBENACEÆ. Trees or shrubs, not milky. Leaves alternate. Flowers regular, usually dioecious. Corolla-lobes 3 to 5. Stamens indefinite (few or many). Ovary 3- or more-celled, with 1 or 2 ovules in each cell. Fruit succulent, usually indehiscent. Seeds albuminous.

LXXIII. STYRACACEÆ. Trees or shrubs. Leaves alternate. Flowers regular, hermaphrodite. Corolla-lobes as many or twice as many as calyx-lobes. Stamens usually more than twice as many, rarely twice as many as corolla-lobes or fewer. Ovary, or at least the fruit, more or less inferior, 2- to 5-celled, with 2 or more ovules in each cell. Fruit usually succulent and indehiscent. Seeds albuminous.

LXXIV. JASMINEÆ. Trees shrubs or climbers. Leaves opposite or very rarely alternate. Flowers regular. Corolla with 4, 5 or more lobes rarely 2-petaled or none. *Stamens 2, alternating with the carpels.* Ovary 2-celled, with one or two ovules in each cell. Fruit succulent or capsular. Seeds with or without albumen.

LXXV. APOCYNÆÆ. Trees shrubs or twiners, rarely perennial herbs. Leaves opposite or rarely scattered. Flowers regular. Stamens 5, alternate with the corolla-lobes; anthers connivent round the stigma. Ovary of two distinct carpels, the styles connected upwards, or rarely the carpels united from the base. Fruit of 1 or 2 follicles drupes or berries. Seeds usually albuminous.

LXXVI. ASCLEPIADEÆ. Twiners or rarely herbaceous perennials or shrubs. Leaves opposite. Flowers regular. Stamens 5, alternate with the corolla-lobes; anthers connate round the stigma, 2- or 4-celled; *pollen consolidated in 1 or 2 masses in each cell.* Ovary of 2 distinct carpels; the styles united upwards. Fruit follicular. Seeds with little albumen.

LXXVII. LOGANIACEÆ. Trees shrubs twiners or herbs. Leaves opposite, often connected by stipules or raised lines. Flowers regular. Stamens as many as corolla-lobes and alternate with them. Anthers free. Ovary usually 2-celled. Style single. Fruit a capsule or berry. Seeds albuminous.

LXXVIII. GENTIANÆÆ. Herbs with a bitter taste. Leaves opposite or in the *Menyanthes* alternate. Flowers regular. Stamens as many as corolla-lobes and alternate with them. Anthers free. Ovary 1-celled with 2 or rarely more parietal placentas rarely completely dividing it into 2 cells; ovules numerous and minute. Style single. Fruit a capsule, rarely indehiscent. Seeds albuminous.

LXXIX. HYDROPHYLLACEÆ. Herbs or rarely undershrubs. Leaves alternate or the lower ones opposite. Flowers regular in unilateral racemes or cymes. Stamens as many as corolla-lobes and alternate with them. Anthers free. Ovary 1-celled with 2 parietal placentas or rarely 2-celled. *Styles or style-branches 2.* Fruit a capsule. Seeds albuminous.

LXXX. BORAGINÆÆ. Herbs usually coarsely hirsute or in drupaceous genera trees or shrubs. Leaves usually alternate. Flowers regular in cymes or unilateral racemes. Stamens as many as corolla-lobes and alternate with them or very rarely fewer. Ovary 2- or 4-celled with 1 ovule in each cell or 2-celled with 2 parallel ovules in each cell. Style single, entire or rarely forked. Fruit a drupe, or dry and separating into 2 or 4 nuts. Seeds with little or no albumen.

LXXXI. CONVULVULACEÆ. Twiners or rarely erect herbs shrubs or trees. Leaves alternate. Flowers regular, usually axillary. Corolla-limb folded in the bud. Stamens 5, alternate with the corolla-lobes or angles. Ovary of 2 to 4 cells or carpels with 1 or 2 erect ovules in each. Style single and entire or 2-branched or 2 distinct styles. Fruit capsular or succulent and indehiscent. Seeds with little or no albumen; *cotyledons very much folded* (or inconspicuous in *Cuscuta*).

LXXXII. SOLANÆÆ. Herbs shrubs or soft-wooded trees. Leaves alternate. Flowers regular or nearly so. Corolla-lobes folded or rarely imbricate in the bud. Stamens as many as corolla-lobes and alternate with them. Ovary 2-celled or spuriously 4-celled (rarely 3- or 4-celled), with several ovules in each cell. Style single. Fruit a berry or a capsule. Seeds albuminous, the embryo usually curved or annular.

LXXXIII. SCROPHULARINÆÆ. Herbs or rarely shrubs or small trees. Leaves alternate or opposite. Flowers irregular with the corolla-lobes bilabiate or imbricate in the bud or rarely nearly regular with the corolla-lobes folded. Perfect stamens 4 in pairs or 2, the

fifth rudimentary or wanting, or very rarely perfect. Ovary 2-celled with several ovules in each cell. Fruit a capsule or very rarely a berry. Seeds albuminous; embryo usually straight.

LXXXIV. LENTIBULARIÆ. Herbs either aquatic with floating capillary-divided leaves or terrestrial with radical or without any leaves. Flowers irregular, the corolla 2-lipped. Stamens 2; anthers 1-celled. Ovary 1-celled, with peltate ovules inserted on a free central placenta. Fruit a capsule. Seeds small, without albumen.

LXXXV. OROBANCHACEÆ. Leafless herbs, not green, parasites on roots. Flowers irregular. Stamens 4, in pairs; anthers 2-celled. Ovary 1-celled, with 2 or 4 parietal placentas and very numerous ovules. Fruit capsular. Seeds albuminous.

LXXXVI. GESNERIACEÆ. Herbs or when shrubby often epiphytical or climbing, rarely erect shrubs. Leaves opposite. Flowers usually irregular. Perfect stamens 4 in pairs or rarely 2 only. Ovary 1-celled, with 2 parietal placentas and numerous ovules. Fruit a berry or capsule. Seeds with or without albumen.

LXXXVII. BIGNONIACEÆ. Woody climbers trees or shrubs. Leaves opposite, often compound. Flowers irregular. Perfect stamens 4 in pairs or 2 only. Ovary 2-celled with 2 distinct and sometimes distant placentas on the dissepiment in each cell; ovules usually numerous. Fruit a capsule usually long and narrow. Seeds winged, without albumen.

LXXXVIII. ACANTHACEÆ. Herbs or shrubs rarely twiners. Leaves opposite. Flowers more or less irregular. Perfect stamens 4, in pairs or 2 only. Ovary 2-celled with 2 or more superposed ovules in each cell. Fruit a capsule opening elastically in 2 valves. Seeds without albumen, usually subtended by hooked or rarely cup-shaped or minute retinacula.

LXXXIX. PEDALINEÆ. Herbs. Leaves opposite. Flowers irregular. Perfect stamens 4 in pairs or rarely 2 only. Ovary composed of 2, rarely 3 or 4 carpels, but divided (at least after flowering) into twice as many cells by spurious dissepiments. Ovules 2 or more or rarely 1 only in each spurious cell (half-carpel). Fruit hard and indehiscent or capsular. Seeds without albumen.

(*Verbenaceæ*, *Labiataæ*, and *Plantaginææ*, completing the *Monopetalæ*, will be given in the fifth volume.)



FLORA AUSTRALIENSIS.

ORDER LXIII. STYLIDIEÆ.

Calyx-tube adnate to the ovary, the limb of 5 divisions, all free or more or less united in 2 lips, the upper one consisting of 3, the lower of 2. Corolla usually irregular, deeply divided into 5 lobes, of which one (the lowest), called the *labellum*, much smaller or very different from the others, or rarely the corolla as well as the calyx regularly 5- or 6-lobed. Stamens 2, the filaments connate with the style in a column free from the corolla; anthers sessile at the top of the column, 2-celled, the cells at length divaricate. Style or stigma terminal, entire or 2-lobed, concealed between the anthers or protruding from them. Ovary 2-celled or 1-celled except quite at the base, with many ovules attached to the centre of the dissepiment, surmounted frequently by 1 or 2 glands at the base of the style. Capsule opening from the top downwards in 2 valves parallel to the dissepiment. Seeds numerous or rarely solitary by abortion, very small, with a minute embryo in a fleshy albumen.—Herbs or rarely undershrubs. Leaves radical or scattered or collected in whorl-like tufts. Flowers hermaphrodite or very rarely unisexual, in terminal racemes or thyrsoid or corymbose panicles, rarely reduced to spikes or to single flowers, the primary inflorescence usually centripetal, the secondary often or sometimes the whole inflorescence centrifugal.

A small Order, chiefly Australian, a very few species being found in tropical Asia, or in New Zealand and Antarctic America, and these all belong to Australian genera except the two species of *Helophyllum*, Hook. f. The Order is very nearly allied to *Campanulaceæ*, and some species have quite the habit of some *Lobelias*, but they constantly differ in the close union of the filaments with the style.

Corolla irregular, the 5th lobe or labellum very different from the others.

Column elongated and folded (usually elastic). Labellum small or narrow

1. STYLIDIUM.

Column erect, usually short, not elastic. Labellum with a hood-shaped lamina covering the anthers or elastically reflexed

2. LEVENHOOKIA.

3. FORSTERA.

Corolla regular or nearly so, the lobes all similar

1. STYLIDIUM, Swartz.

(*Forsteropsis*, *Sond.*)

Calyx-lobes 5, often more or less united in 2 lips. Corolla irregular, 1

of the lobes or labellum much smaller and turned down or rarely nearly as long and curved upwards, the other 4 ascending in pairs. Column elongated and bent down or folded, elastic in most of the species if not in all. Stigma undivided. Ovary 2-celled. Habit and foliage those of the Order. Flowers in racemes, panicles or corymbose cymes on terminal peduncles or radical scapes.

A genus comprising nearly the whole Order, and entirely Australian, with the exception of one species extending into tropical Asia, and another East Indian species not yet identified with certainty with any Australian one. The majority of the species form a rosette or spreading tuft of radical leaves, from the midst of which springs the scape. Sometimes the following year the new leaves and scape are close upon the old ones, forming a dense, tufted stock, the bases of the leaves sometimes assuming a bulbous appearance; in others, one or two short stems are formed above the old tuft, each crowned by a new rosette and scape, and sometimes several successive tufts of leaves, separated by short stems or branches, may be observed; these are termed *proliferous* stems or branches, and occasionally emit adventitious roots from several of the lower tufts. In a few species the leaves are all, or only the small upper ones, in almost regular whorls; and in a few others they are alternate or scattered without forming tufts. The inflorescence in different species shows every gradation, from the simple raceme or raceme-like panicle to the corymb or to the dichotomous cyme with sessile or pedicellate flowers in the forks. The precise form of the corolla, the direction of its lobes in the expanded flower, and the small scales or glandular appendages in the throat or at the base of the labellum may be constant in many cases, and might serve for good specific characters; but these parts are so delicate that there is great uncertainty in describing them from dried specimens. Different botanists have described them differently in the same species, and I have myself found considerable discrepancies in this respect in different flowers even of the same specimens; the characters founded on them must therefore not be absolutely relied on. The colour of the flower is also said to be constant in some species, and has been made use of as a specific character since the time of Brown; but it appears to be variable in other species, and in most cases it is either unknown, or only given in vague and often contradictory notes of collectors. It is only a botanist resident on the spot that can complete the specific characters in the above respects.

SECT. I. **Tolyptangium**.—Capsule globular-ovoid, obovoid or oblong.

SERIES I. **Squamosæ**.—Stock tufted, rarely proliferous. Leaves radical, intermixed with lanceolate, scarious scales, which are wanting in all the following sections. Scapes leafless, except a few scattered bracts.—Western species.

Inflorescence a long raceme, simple or slightly branched at the base.

Leaves obovate or orbicular, not above 1 in. long. Scape

glabrous 1. *S. carnosum*.

Leaves linear or lanceolate, 1 in. to 1 ft. long. Scape hairy . . . 2. *S. pilosum*.

Inflorescence a loose thyrsoid panicle. Leaves linear. Scape hairy.

Leaves usually glabrous. Scapes (with the inflorescence) much longer than the leaves 3. *S. reduplicatum*.

Leaves pubescent. Scapes but slightly exceeding the leaves . . . 4. *S. scabridum*.

Inflorescence short, compact and spike-like. Leaves linear.

Spike oblong, hirsute as well as the scape. Bracts small . . . 5. *S. hirsutum*.

Spike contracted into a depressed head. Bracts $\frac{1}{2}$ in. long with scarious margins 6. *S. crossoccephalum*.

(In a few of the *Lineares* and other series the bases of the old leaves persist on the stock in the form of scales, always much shorter and more rigid than the true scales of the *Squamosæ*.)

SERIES II. **Peltigeræ**.—Stock tufted or proliferous-branched. Leaves radical. Flowers in a dense spike or cluster with numerous bracts produced below their insertion, the scapes otherwise leafless.—Western species.

Scapes erect and rush-like or long and twining. Spike oblong.

Flowers almost sessile 7. *S. junceum*.

- Scapes 1 to 2 in. Flowers sessile in a terminal globular cluster of small, leaf-like bracts 8. *S. guttatum*.
 Stock or stem proliferous-branched and rooting at the tufts.
 Flowers pedicellate in terminal, globular clusters of small, leaf-like bracts 9. *S. repens*.

SERIES III. Lineares.—Perennials with a tufted or shortly proliferous stock or rarely annuals. Leaves radical, linear or rarely linear-lanceolate. Scapes leafless except a few scattered bracts. Inflorescence racemose, paniculate or corymbose.

- Calyx-lobes united in 2 lips. Inflorescence nearly simple, long and narrow.—Eastern species.
 Leaves linear or linear-lanceolate, 2 to 9 in. long. Fruit ovoid-oblong 10. *S. graminifolium*.
 Leaves linear-subulate, under 2 in. long. Fruit narrow-oblong.
 Flowers small 11. *S. lineare*.
 Calyx-lobes all free. Inflorescence thyrsoid or racemose. Capsule ovoid or oblong.—Western species.
 Leaves 2 to 6 in. long. Scape hirsute. Inflorescence thyrsoid . 12. *S. elongatum*.
 Leaves under 2 in. long.
 Leaves very narrow linear, mucronate. Raceme simple, loose, glandular 13. *S. spinulosum*.
 Leaves linear but flat, obtuse or mucronate-acute, densely tufted. Raceme loose, usually simple 14. *S. cæspitosum*.
 Leaves linear or slightly cuneate, usually erect, obtuse or rather acute. Raceme simple or nearly so. Stock often slightly elongated.
 Raceme nearly glabrous. Flowers purple or rarely yellow . 15. *S. violaceum*.
 Raceme glandular-pubescent. Flowers usually yellow . . 16. *S. luteum*.
 Leaves densely tufted, linear or slightly cuneate, with a fine, usually hair-like point.
 Racemes mostly simple, slightly glandular-pubescent . . 17. *S. piliferum*.
 Panicle narrow thyrsoid or rarely almost a simple raceme, clothed with yellowish, glandular hairs 18. *S. ciliatum*.
 Calyx-lobes free. Inflorescence corymbose-paniculate. Capsule ovoid or oblong.—Eastern species.
 Perennial. Leaves in a dense globular tuft, with fine, hair-like points. Capsule 2 to 2½ lines long 19. *S. soboliferum*.
 Annual. Leaves linear-filiform. Capsule 1 to 1½ lines long . 20. *S. Floodii*.
 Calyx-lobes free. Inflorescence corymbose-paniculate. Capsule globular. Annual. Western species. 21. *S. dispersum*.

SERIES IV. Androsaceæ.—Small annuals, with radical rosulate leaves and few-flowered, leafless scapes. Labellum long and ascending. Stigma stipitate between the anthers (sessile in all other series). Capsule globular.—Southern species.

- Corolla-tube spurred 22. *S. calcaratum*.
 Corolla without any spur 23. *S. perpusillum*.

SERIES V. Spathulatæ.—Perennials with a tufted or proliferous stock or rarely annuals. Leaves radical or terminal, from linear-spathulate to obovate. Scapes leafless except a few scattered bracts.

- Tropical species. Leaves usually thin.
 Stock thick and woolly. Leaves pubescent, with a hair-like point. Panicle narrow-thyrsoid 24. *S. eriorhizum*.
 Annuals or with a slender stem below the terminal tuft of leaves.
 Raceme long and simple 25. *S. debile*.
 Panicle loose.
 Scape with long, spreading, glandless hairs 26. *S. floribundum*.

- Scape glabrous or with short, glandular hairs 27. *S. leptorhizum*.
 Western species. Perennials with firm leaves.
 Leaves linear-cuneate, thick and very obtuse. Panicle loosely
 thyrsoid, glandular-pubescent 28. *S. assimile*.
 Leaves oblanceolate to obovate, spatulate, flat. Raceme simple
 or nearly so.
 Leaves pubescent.
 Stock proliferous-branched. Leaves under $\frac{1}{2}$ in. long.
 Scares short, few-flowered 29. *S. rupestre*.
 Leaves radial, $\frac{1}{2}$ to $1\frac{1}{2}$ in. long. Raceme long.
 Leaves entire 30. *S. spatulatum*.
 Leaves toothed 31. *S. Barleei*.
 Leaves hirsute with long hairs. Raceme long 32. *S. lineatum*.
 Leaves glabrous 33. *S. glaucum*.

SERIES VI. **Diversifoliæ**.—*Perennials with tufted or rosulate radical leaves. Scares with 1, 2, 3, or 4 whorls of linear leaves, much smaller than the radical ones. Western species.*

- Radical leaves spatulate, under 2 in. Whorl-leaves very small
 and few. Raceme simple or nearly so.
 Leaves obscurely striate 34. *S. amœnum*.
 Leaves with marked striæ 35. *S. striatum*.
 Radical leaves obovate-orbicular, thick. Whorl-leaves subulate 36. *S. diversifolium*.
 Radical leaves narrow-spatulate, 2 to 4 in. Whorl-leaves narrow.
 Panicle compact, thyrsoid 37. *S. articulatum*.
 Radical leaves linear or oblanceolate.
 Whorls several 38. *S. Brunonianum*.
 Whorls 1 or 2, very minute 39. *S. luteum*.
 Radical leaves linear subulate. Whorl-leaves similar but smaller 39. *S. diuroides*.

SERIES VII. **Verticillatæ**.—*Stems elongated, simple or branched. Leaves all linear in distant whorls, without larger radical ones. Western species.*

- Inflorescence glabrous or nearly so 40. *S. scandens*.
 Inflorescence hirsute, with spreading hairs 41. *S. verticillatum*.

SERIES VIII. **Sparsifoliæ**.—*Undershrubs or shrubs, with linear spreading leaves scattered along the branches and not collected in radical or terminal tufts.*

- Western species. Branches covered with the adnate cartilaginous
 bases of the petioles 42. *S. glandulosum*.
 Eastern species. Petioles without adnate bases 43. *S. laricifolium*.

SERIES IX. **Imbricatæ**.—*Stems branching, slender but hard, covered with small imbricate, almost scale-like leaves, not collected in radical or terminal tufts. Western species.*

- Leaves with scarious margins. Flowers few, sessile within the last
 leaves. Bracts transparent. Corolla-tube short 44. *S. Preissii*.
 Leaves with scarious margins. Flowers in a short terminal sessile
 spike or raceme. Bracts leaf-like. Corolla-tube exserted 45. *S. imbricatum*.
 Leaves without scarious margins. Flowers few, in a pedunculate
 head or short raceme. Bracts leaf-like. Corolla-tube short 46. *S. adpressum*.

SECT. II. **Nitrangium**.—*Capsule linear or very narrow-oblong.*

SERIES X. **Tenellæ**.—*Slender annuals. Leaves small or thin, alternate or scattered, the lower ones sometimes more crowded but not distinctly tufted or rosulate.*

Leaves linear, chiefly in the lower part of the stem. Bracts very
 small.

Capsule 2 to 4 lines long. Western species.

Flowers pedicellate.

- Corolla scarcely half as long again as the calyx-lobes. Labellum inappendiculate 47. *S. despectum*.
 Corolla twice as long as the calyx-lobes. Labellum appendiculate 48. *S. utricularioides*.
 Flowers sessile. Corolla small 49. *S. pygmaum*.
 Capsule $\frac{1}{2}$ to 1 in. long.
 Flowers pedicellate. Stems erect. Western species . . . 50. *S. longitubum*.
 Flowers sessile. Stems very slender or diffuse. Tropical species.
 Capsule $\frac{1}{2}$ in. long, not beaked 51. *S. diffusum*.
 Capsule $\frac{3}{4}$ to 1 in. long, more or less distinctly beaked . . 52. *S. fissilobum*.
 Leaves scattered along the stem, contracted at the base, the lower ones not larger, the upper ones passing into the bracts. Tropical species.
 Floral leaves or bracts opposite. Capsule sessile 53. *S. alsinoides*.
 Floral leaves or bracts alternate. Capsule pedicellate . . 54. *S. tenerrimum*.

SERIES XI. **Corymbulosæ.**—*Slender annuals or small perennials. Leaves radical, rosulate or tufted. Scape rarely exceeding 6 in. Flowers corymbose or sessile in the forks or along the scape or its branches, or solitary.*

- Leaves radical, very small, oblong-linear or spatulate, not forming a bulb.
 Flowers corymbose. Capsule oblong-linear. Western species . 55. *S. brachyphyllum*.
 Flowers 1 or 2. Capsule very narrow-linear. Tropical species . 56. *S. capillare*.
 Leaves radical, not forming a bulb, the lamina thin, obovate-orbicular. Tropical species:
 Flowers in a loose, irregularly-corymbose panicle. Capsule narrow-linear.
 Calyx-lips undivided, short and broad. Corolla-lobes nearly equal 57. *S. rotundifolium*.
 Calyx lower lip 3-partite. Corolla with 2 lobes much longer and bifid.
 Very slender, slightly glandular. Flowers white . . . 58. *S. schizanthum*.
 Rather more rigid and glandular. Flowers pink . . . 59. *S. lobuliflorum*.
 Flowers sessile along the scape or its branches. Capsule shortly linear 60. *S. uliginosum*.
 Leaves radical, small, linear or spatulate, the dilated base of the petioles forming a little brown bulb. Western species.
 Flowers in a small regular corymb. Capsule linear . . . 61. *S. pulchellum*.
 Flowers in a loose, irregular corymb. Capsule oblong.
 Scape without any or very few scattered bracts below the inflorescence 62. *S. petiolure*.
 Scape with a whorl of minute bracts below the inflorescence . 63. *S. emarginatum*.
 Leaves radical, linear, densely tufted, not bulbous, $\frac{1}{2}$ to 2 in. long. Western species.
 Flowers in a compact corymb, with the central one sessile.
 Leaves not very narrow. Bracts oblong or ovate. Calyx-lobes broad, very obtuse 64. *S. corymbosum*.
 Leaves very narrow. Bracts and calyx-lobes linear . . . 65. *S. lepidum*.
 Flowers in a loose, divaricate, irregularly corymbose panicle . 66. *S. streptocarpum*.
 Flowers solitary on each scape 67. *S. uniflorum*.
 Stem shortly developed below the terminal tuft of leaves and peduncles. Tropical species (except *S. brachyphyllum*).
 Leaves linear-subulate. Peduncles 1-flowered 68. *S. pedunculatum*.
 Leaves oblanceolate or spatulate. Stem thick and hard. Flowers corymbose 69. *S. pachyrrhizum*.
 Leaves petiolate, orbicular, membranous ($\frac{1}{2}$ to 1 in.).
 Flowers sessile along the branches of the peduncles . . . 70. *S. muscicola*.

Leaves very small, narrow. Flowers pedicellate 55. *S. brachyphyllum*.

(See also 77. *S. bulbiferum* and 78. *S. breviscapum*, which have the inflorescence sometimes almost corymbose, but a proliferous-branched stock.)

SERIES XII. Thyrsiformes.—*Perennials with a tufted or proliferous branched stock or stem, with radical or terminal tufts of leaves. Flowers in an oblong or elongated thyrsoid panicle or raceme.*

Stock hard, at length horizontal. Leaves radical, elongated, thick, oblanceolate or spatulate.

Scape 1 to 2 ft. high, glabrous at the base. Inflorescence long and narrow. Capsule 5 to 8 lines long 71. *S. crassifolium*.

Scape $\frac{1}{2}$ to 1 ft., glandular-pubescent or villous. Inflorescence thyrsoid. Capsule 9 to 10 lines long 72. *S. pycnostachyum*.

Stock tufted. Leaves linear.

Leaves rather broad, with a very fine joint. Inflorescence glandular-pubescent. Capsule 4 to 6 lines long 73. *S. pubigerum*.

Leaves narrow-linear, obtuse or shortly pointed.

Inflorescence nearly glabrous. Capsule 3 lines long 74. *S. canaliculatum*.

Inflorescence glandular-pubescent or villous. Capsule 4 to 6 lines 75. *S. leptophyllum*.

Stock or stem proliferous-branched. Leaves narrow-linear.

Inflorescence thyrsoid, many-flowered. Upper leaves 1 in. long or more 76. *S. dichotomum*.

Inflorescence short, few-flowered or compact. Leaves under $\frac{1}{2}$ in. long.

Flowers few, loosely racemose. Capsule long, linear 77. *S. bulbiferum*.

Flowers in a compact cluster. Capsule lanceolate-linear . . 78. *S. breviscapum*.

Inflorescence narrow-racemose. Branches of the stem slender.

Leaf-tufts woolly at the base 79. *S. eglandulosum*.

SECT. III. Rhynchangium.—*Capsule lanceolate or linear, contracted into a slender beak. Perennials. Leaves linear, scattered along the stem, the upper ones usually forming a terminal tuft.*

Both cells of the capsule equal and fertile 80. *S. fasciculatum*.

Upper cell of the capsule scarcely half as broad as the more perfect one. Capsule much falcate. Raceme usually simple.

Raceme several inches long. Beak of the capsule short . . . 81. *S. falcatum*.

Raceme sessile, scarcely exceeding the leaves. Beak of the capsule long 82. *S. rhynchocarpum*.

Upper cell of the capsule reduced to a filiform rib 83. *S. adnatum*.

(52. *S. fissilobum*, a slender annual, with very small leaves, has also the linear capsule more or less distinctly beaked.)

SECT. I. TOLYPANGIUM, Endl.—Capsule globular, ovoid, obovoid or oblong.

SERIES I. SQUAMOSÆ.—Stock tufted, very rarely proliferous, the radical leaves intermixed with lanceolate, scarios scales, often enclosing the young shoots, and which appear to be abortive petioles. Scapes leafless or with a few small, scattered bracts.

1. ***S. carnosum*, Benth. in Hoeg. Enum.** 71. Stock tufted, at length thick, but not proliferous, with a few linear-lanceolate, acuminate, scarios scales both outside and inside the leaves. Leaves all radical, from obovate to narrow-lanceolate, obtuse, rather thick and glabrous, from $\frac{1}{2}$ in. to above 1 in. long, besides the long petiole, which is more or less dilated and

scarious at the base. Scape 1 to 2 ft. long, glabrous below the inflorescence, with a very few small scale-like leaves or bracts, the upper half occupied by the slender, glandular-pubescent raceme. Flowers small, on short pedicels or the lower ones 2 or 3 together on a short peduncle. Calyx about 2 lines long, the lobes free, lanceolate or linear, rather shorter than the tube. Corolla "whitish," the upper lobes nearly 3 lines long, the throat with small glandular appendages, the labellum small, ending in a fine point, without appendages at the base. Capsule nearly globular, $1\frac{1}{2}$ lines diameter. DC. Prod. vii. 332; Sond. in Pl. Preiss. i. 370; *S. leptostachyum*, Lindl. Swan Riv. App. 28; Sond. l. c.

W. Australia. King George's Sound to Swan River, *Huegel, Deutmann's 1st Coll. n. 530; Preiss, n. 2233, 2234, Oldfield*. The species has much of the aspect of *S. diversifolium*, from which it differs in the presence of the scarious scales on the stock, in the less bulbous appearance of the base of the leaves, and in the small leaves on the scape very few and not collected in whorls.

2. ***S. pilosum***, *Labill. Pl. N. v. Holl. ii. 63. t. 213*. Stock tufted, at length thick but not proliferous, with lanceolate, scarious scales, 1 to 2 in. long, intermixed with the leaves. Leaves radical, broadly linear or lanceolate, acute, nearly flat, of a firm consistence and glabrous, from 4 or 5 in. to 1 ft. long, including the long petiole, which is not dilated at the base. Scape leafless, except the bracts, 1 to 2 ft. long, more or less clothed with long spreading hairs, intermixed in the inflorescence with short glandular ones, the upper moiety forming a long raceme, simple or shortly branched at the base. Flowers rather large, all pedicellate. Calyx about 3 lines long; lobes shorter than the tube, free. Corolla-lobes 3 to 4 lines long, the throat with clavate appendages; labellum small, obtuse, with basal appendages. Capsule ovoid, glandular-villous, 4 to 6 lines long.—R. Br. Prod. 567; DC. Prod. vii. 332; *Cordoloba pilosa*, Labill. in Ann. Mus. Par. vi. 453. t. 63; *S. longifolium*, Rich. in Pers. Syn. ii. 210; *S. plantaginifolium*, Sond. in Pl. Preiss. i. 371.

W. Australia. King George's Sound, *Labillardiere, R. Brown*, and others; *Preiss, n. 2298; Deutmann, n. 79, 2nd Coll. n. 263, 7th Coll. n. 350*, also, perhaps, *n. 351*, in which the raceme is shorter, but it seems to belong to this rather than to *S. replectense*.

3. ***S. reduplicatum***, *R. Br. Prod. 568*. Stock thick, rarely proliferous, with broadly lanceolate scarious scales round the leaves. Leaves all radical, linear, acutely acuminate, narrowed into a long petiole not dilated at the base, from rather broad and nearly flat to very narrow with revolute margins, glabrous or minutely glandular-pubescent, 3 or 4 in. to nearly 1 ft. long. Scape leafless, $\frac{1}{2}$ to 1 ft. or rarely $1\frac{1}{2}$ ft. long, with more or less of spreading hairs intermixed on the inflorescence with glandular pubescence. Flowers of *S. pilosum* but usually larger, of a yellowish-white or pale pink, in a short loose raceme, sometimes reduced to 3 or 4 flowers, the lower ones on long pedicels, sometimes numerous in a shortly pyramidal or almost corymbose panicle. Calyx of *S. pilosum*. Corolla-lobes more unequal, the 2 larger ones from 6 to 9 lines long, connate to the middle. Capsule ovoid, usually much smaller than in *S. pilosum* (2 to 3 lines long).—DC. Prod. vii. 322; *S. schrenkoides*, DC. Prod. vii. 782; Sond. in Pl. Preiss. i. 372; *S. hebecyllum*, DC. Prod. vii. 782; *S. caricifolium*, Lindl. Swan Riv. App. 28; Sond.

l. c. 372: *S. pilosum*, Sond. l. c. 371; Lindl. Bot. Reg. 1842, t. 41, not of Labill.; *S. affine*, Sond. l. c. 371; *S. Drummondii*, Griseb. in Edinb. New Phil. Journ. xxx. 208, and in Maund. Botanist, v. t. 213.

W. Australia. From King George's Sound to Swan River, *Baxter, Collic, Oldfield, Preiss, n. 2291, 2292, Drummond, n. 7, 525, 526, 2nd Coll. n. 276*; and eastward to Lucky Bay, *R. Brown*; and Cape Le Grand and Cape Arid, *Marshall*. The Swan River specimens are usually larger, and have often broader and flatter leaves; those from the eastern drier parts of the area are usually smaller, with narrower, more revolute, almost terete leaves, and fewer larger flowers, but exceptions are found to both. In some eastern specimens there is a tendency to proliferation of the stock. Some of the smaller specimens, when reduced to very few flowers, have almost the aspect of *S. hirsutum*, but with much larger flowers.

4. ***S. scabridum***, Lindl. *Swan Riv. App.* 28. Very closely allied to the pubescent forms of *S. reduplicatum*, and perhaps a variety of that species. It is a smaller plant, the leaves rarely above 3 in. long, with shorter points and always pubescent; the scape sometimes not exceeding the leaves, rarely twice as long, with a loosely corymbose panicle, the pedicels and calyxes often very hirsute, the bracts and calyx-lobes narrow-linear or subulate; the flowers smaller than in *S. reduplicatum*, and the capsule shorter.—Sond. in Pl. Preiss. i. 372; *S. laxiflorum*, DC. Prod. vii. 782; *S. leptocalyx*, Sond. in Pl. Preiss. i. 373.

W. Australia. Swan River, *Drummond, 1st Coll. n. 532, 533*; Princess Royal Harbour, *Preiss, n. 2289 (Sonder)*; also *Drummond, n. 402*.

5. ***S. hirsutum***, R. Br. Prod. 568. Stock tufted, not so thick as in *S. reduplicatum*, with narrow-lanceolate, scarios scales amongst the leaves. Leaves narrow-linear, acutely acuminate, sometimes all under 2 in., sometimes 6 to 8 in. long, glabrous or glandular-pubescent. Scapes 6 in. to above 1 ft. high, leafless, with spreading hairs often intermixed on the inflorescence with glandular pubescence. Flowers nearly sessile, forming a dense, oblong, spike-like raceme, rarely above 1 in. long and very hairy. Calyx about $3\frac{1}{2}$ lines long, the lobes free or the 2 lower broader ones united at the base. Corolla pink or red, the larger lobes nearly equal, the throat appendages conspicuous; labellum lanceolate, with crisped margins and short appendages or sometimes none. Capsule ovoid, from 3 to 4 lines long.—DC. Prod. vii. 332; Sond. in Pl. Preiss. i. 372; Bot. Mag. t. 3194.

W. Australia. King George's Sound and adjoining districts, *R. Brown* and others, *Drummond, n. 113, 3rd Coll. n. 166, 5th Coll. 353 (or 359?)*, *Preiss, n. 2291*; also Swan River, *Drummond, 1st Coll.*

6. ***S. crossocephalum***, F. Muell. *Fragm.* vi. 5. Stock tufted, with a few long lanceolate scales intermixed with the leaves, either entirely scarios or with a leaf-like centre. Leaves radical, narrow-linear, acute or almost obtuse, scabrous-pubescent like those of *S. scabridum*, 2 to 3 or rarely 4 in. long. Scapes simple and leafless, quite glabrous, longer than the leaves. Flowers sessile, in a short, dense, depressed head, surrounded by lanceolate-acuminate bracts, about $\frac{1}{2}$ in. long, very fine-pointed, with rather broad, scarios, slightly-ciliate margins. Flowers only seen in bud, and then not so long as the bracts. Calyx-lobes linear, acuminate, with scarios margins, the 2 lower ones united to the middle, the others free. Corolla with broad

appendages to the throat opposite the larger lobes, and very small ones opposite to the smaller lobes; labellum linear-lanceolate, with a few glandular hairs. Ovary 1-celled, with several ovules on a short, basal placenta.

W. Australia, Drummond.

SERIES 2. PELTIGERÆ.—Stock tufted or proliferous-branched. Leaves radical, linear. Flowers in dense spikes or clusters, the bracts numerous, and more or less produced below their insertion into a short spur or appendage.

7. **S. junceum**, *R. Br. Prod.* 569. Quite glabrous or with a very few glandular hairs on the ovary. Stock at length thick and almost woody. Leaves radical, linear, acute, 1 to $1\frac{1}{2}$ in. long, sometimes all withered away at the time of flowering. Stem or scape erect and rush-like, and $\frac{1}{4}$ to $\frac{1}{2}$ ft. high, or more or less flexuose or twining, and then lengthening to 2 or 3 ft. or more, leafless except the bracts. Flowers small, nearly sessile in a short, dense, spike-like raceme. Bracts lanceolate, acute, with scarious margins, produced at the base below their insertion, imbricate before flowering. Calyx-lobes narrow and very acute, all free. Corolla white, pink or pale yellow, with small, glandular appendages to the throat, the labellum lanceolate, without appendages. Capsule ovoid, the calyx-lobes more deciduous than in most species, and with a prominent rib on each side at the suture of the valves.—DC. *Prod.* vii. 334; Sond. in *Pl. Preiss.* i. 377; *S. scariosum*, DC. *Prod.* vii. 783.

W. Australia. In very wet places common from King George's Sound to Swan River, *R. Brown*, *Huegel*, and others, *Drummond*, 1st *Coll.* n. 539, 3rd *Coll.* n. 179, also 26, 41, 132, and in some sets 171, *Preiss.* n. 2264. To the eastward, near Lake Leven, *Maxwell*, these specimens more elongated and twining, with rather larger flowers than any others, although some of Drummond's are nearly as much so.

8. **S. guttatum**, *R. Br. Prod.* 571. Quite glabrous, except a few glandular hairs on the inflorescence. Stock tufted or very shortly proliferous. Leaves all radical, narrow-linear, acute or obtuse, $\frac{1}{2}$ to 1 in. long. Scape $1\frac{1}{2}$ to 2 in. long, leafless below the inflorescence, bearing a cluster or head of sessile flowers surrounded by and intermixed with numerous oblong-linear, leaf-like bracts, which are shorter than the calyx-tube, and shortly produced at the base below their insertion. Calyx about $2\frac{1}{2}$ lines long, the lobes free, rather acute, as long as the tube. Corolla with appendages to the throat and to the very narrow, acute labellum. Capsule narrow-oblong, contracted at the top, about 2 lines long, but not seen quite ripe, and then perhaps broader.—DC. *Prod.* vii. 336; Sond. in *Pl. Preiss.* i. 387; *S. androsaceum*, DC. *Prod.* 783.

W. Australia. From King George's Sound, *R. Brown* and others, to Vasse river, *Preiss.* n. 2243, and Swan River, *Drummond*, 1st *Coll.* n. 540, also n. 33 and 40, and eastward to Cape Arid, *Maxwell*.

9. **S. repens**, *R. Br. Prod.* 571. Quite glabrous. Stock forming very slender proliferous branches, and often rooting at the tufts. Leaves at the base and ends of the branches densely tufted, linear, acute, under $\frac{1}{4}$ in. long, with a few also scattered along the branches, the floral ones or nearly all

shortly produced at the base below their insertion, and often with scarious margins. Flowers small, intermixed with the leaves or bracts of the terminal tufts, on slender pedicels of 2 to 4 lines. Calyx-lobes free, very acute. Corolla red or white, with appendages to the labellum and not to the throat in the specimens examined, but just the contrary as observed by Brown. Capsule narrow ovate, 1 line long.—DC. Prod. vii. 336; *S. radicans*, Sond. in Pl. Preiss. i. 381.

W. Australia. King George's Sound, R. Brown and others, to Swan River, *Preiss*, n. 2299, 2300, also *Drummond*, 2nd Coll. n. 272, 273, 3rd Coll. n. 171.

SERIES 3. LINEARES.—Leaves linear or rarely linear-lanceolate, all radical or in a tuft at the end of a short, proliferous stem, without intermixture of scarious scales. Scape leafless, except the small bracts of the inflorescence, and sometimes a very few, small, bract-like leaves scattered below the inflorescence.

10. ***S. graminifolium***, Swartz; DC. Prod. vii. 333. Glabrous or nearly so, except the glandular-pubescent inflorescence. Stock tufted or shortly proliferous, rarely lengthening to 4 or 5 in. Leaves linear, rather rigid, acute or obtuse, nearly flat, varying much in breadth, the margins entire or with minute, cartilaginous denticulations, dilated and more or less scarious at the base, sometimes not exceeding 2 in., in luxuriant specimens 6 to 9 in. long. Scapes from $\frac{1}{2}$ to $1\frac{1}{2}$ ft., the upper $\frac{1}{4}$ to $\frac{1}{2}$ occupied by a narrow, simple raceme or interrupted spike. Bracts small. Flowers nearly sessile or shortly pedicellate. Calyx 3 or 4 lines long, the lobes broad and obtuse, united nearly to the top into two lips. Corolla-lobes nearly equal, the labellum rather long, obtuse, the appendages variable. Capsule ovoid-oblong, $\frac{1}{4}$ to nearly $\frac{1}{2}$ in. long.—R. Br. Prod. 568; Labill. Pl. Nov. Holl. ii. 65. t. 215; Hook. f. Fl. Tasm. i. 235; Bot. Reg. t. 90; Bot. Mag. t. 1918; *Candollea serrulata*, Labill. in Ann. Mus. Par. vi. 454. t. 64; *Stylidium serrulatum*, Rich. in Pers. Syn. ii. 210; *Ventenatia major*, Sm. Exot. Bot. ii. 73. t. 66; *S. canaliculatum*, Poir. Dict. Suppl. v. 412.

Queensland. Moreton Bay, A. Cunningham.

N. S. Wales. Common in grassy lands. Port Jackson to the Blue Mountains, R. Brown, Sieber, n. 253, and others; northward to Hastings and Clarence rivers, Becker; New England, C. Stuart; and southward to Illawarra and Twofold Bay, A. Cunningham.

Victoria. From Port Phillip to the Australian Alps, F. Mueller and others; Portland, Allitt; Glenelg river, Robertson; Wimmera, Dallachy.

Tasmania. Very abundant throughout the colony, from the level of the sea to an elevation of 4000 ft., J. D. Hooker.

S. Australia. Port Adelaide, Blandowsky; foot of Mount Barker, Whittaker; Lofty Range, P. Mueller.

S. armeria, Labill. Pl. Nov. Holl. ii. 66. t. 216; DC. Prod. vii. 333; Lem. Jard. Fleur. iii. t. 286; *Candollea armeria*, Labill. in Ann. Mus. Par. vi. 455, is the same plant with rather broader leaves. *S. melastachys*, R. Br. Prod. 568; DC. L. c. 333, separated at first on account of the leaves being almost entirely without the minute denticulations, is not distinguishable even as a variety, the leaves varying in this respect on the same specimen.

S. umbellatum, Labill. Pl. Nov. Holl. ii. 66. t. 217; DC. Prod. vii. 332; *Candollea umbellata*, Labill. in Ann. Mus. Par. vi. 456; *S. polystachya*, Rich. in Pers. Syn. ii. 210, is probably, as suggested in Hook. f. Fl. Tasm. i. 235, an accidental monstrosity of *S. graminifolium*.



11. **S. lineare**, Swartz: *DC. Prod.* vii. 333. Glabrous, except the inflorescence, like *S. graminifolium*, and resembles that species in its linear leaves, dilated towards the base, racemose inflorescence and undivided calyx-lips, but it is a smaller species, the leaves very narrow, acute, usually incurved, not exceeding 2 in. and often much shorter. Scapes slender, the raceme 2 to 4 in. long, and much looser than in *S. graminifolium*. Flowers smaller, on pedicels of 1 to 2 lines, the calyx-tube linear, and the ripe capsule much narrower than in that species.—*R. Br. Prod.* 568; *Vegetaria minor*, Sm. *Exot. Bot.* ii. 15. t. 67; *S. planifolium*, Poir. *Diet. Suppl.* v. 412.

N. S. Wales. Marshes about Port Jackson, *R. Brown* and others; Blue Mountains, *A. Cunningham*. *F. Mueller* proposes to unite this with *S. graminifolium*.

If the calyx-lips of *S. setaceum*, Labill. *Pl. Nov. Holl.* ii. 65; *DC. l.c.* 333; *Candollea setacea*, Labill. in *Ann. Mus. Par.* vi. 455, from the *Terre Van Leeuwin*, are really undivided as described, they would indicate a species allied to *S. lineare*; in other respects his description answers to *S. spinulosum*.

12. **S. elongatum**, Benth. Stock tufted, the broad bases of the old leaves giving it at length a bulbous aspect. Leaves all radical, linear, acute or nearly so, flaccid, 4 to 8 in. long, usually glabrous. Scape rarely twice as long as the leaves, hirsute, with spreading hairs intermixed on the inflorescence with glandular pubescence. Panicle long and narrow, but many-flowered, almost all the peduncles 3- to 7-flowered. Calyx-lobes free. Corolla without any appendages to the throat, but long ones to the labellum. Capsule ovate.

W. Australia, *Drummond*; Clampton Bay, *Oldfield*. *Drummond's Ath Coll.* v. 170, appears to be the same species, but with a shorter, looser panicle, almost like that of *S. assimile*. In the ripe capsule there are usually only 1 or 2 perfect seeds in each cell.

13. **S. spinulosum**, *R. Br. Prod.* 569. Stock tufted or shortly proliferous, more slender than in *S. caespitosum*. Leaves very narrow-linear, mucronate, bordered by minute, cartilaginous serratures or short hairs, mostly under 1 in. long. Scapes about 4 to 8 in. high, sprinkled with a few glandular hairs from the base. Racemes usually simple, loose, glandular-pubescent or sometimes almost villous, resembling those of *S. caespitosum*. Flowers white, with red streaks outside like those of *S. caespitosum*, but the appendages of the throat of the corolla prominent, and none on the labellum according to *Brown*; those characters, however, may not be constant. Capsule rather narrower than in *S. caespitosum*.—*DC. Prod.* vii. 333; *Sond. in Pl. Preiss.* i. 373.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Bart r*, *Preiss.* n. 2279, *Drummond*, 3rd *Coll.* n. 176, *F. Mueller*.

S. aciculare, *Sond. in Pl. Preiss.* i. 373, from *D'Urville's* collection, which I have not seen, appears from the character given to be the same species. The character given of *S. setaceum*, Labill. above quoted, appears also to answer to that of *S. spinulosum*, except that the calyx-lips are said to be undivided as in *S. graminifolium*.

14. **S. caespitosum**, *R. Br. Prod.* 569. Glabrous, except a few glandular hairs on the calyx and sometimes on the pedicels, more rarely on the foliage. Stock tufted, scarcely proliferous. Leaves narrow-linear, obtuse, acute or with a short point, which is fine but not hair-like as in *S. piliferum*, mostly

1 to $1\frac{1}{2}$ in. long, more crowded and spreading than in *S. violaceum*, broader and flatter than in *S. spinulosum*. Scapes slender, 6 in. to nearly 1 ft. high, the raceme loose, mostly simple, but the pedicels bracteate at or above the middle, and sometimes 2- or 3-flowered. Flowers small. Calyx-lobes free, obtuse. Corolla "yellow or nearly white," the labellum with appendages, the throat usually without. Capsule ovoid, in the ordinary form 2 lines long.—DC. Prod. vii. 333; Sond. in Pl. Preiss. i. 373.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *J. Cunningham*, and others, *Preiss*, n. 2275; *Drummond*, n. 46, 49, 126, 132, 3rd Coll. n. 168.

Var. ? *subbulbosum*. Stock thicker, almost bulbous from the persistent bases of old leaves. Leaves usually ciliate, with a few long glandular hairs. Raceme more stout. Capsule ovoid-oblong, 3 lines long. Swan River, *Drummond*, 1st Coll. and 3rd Coll. n. 172. *S. squamellosum*, DC. Prod. vii. 782, Sond. in Pl. Preiss. i. 377, is probably this variety.

This and the two following species, which may be really very distinct and readily recognized in the fresh state by the colour and form of the corolla, are very difficult to characterize from dried specimens.

15. ***S. violaceum***, *R. Br. Prod.* 569. Quite glabrous or with a few glandular hairs on the calyx and pedicels. Stock simple or tufted, but more slender than in *S. caespitosum*, and sometimes proliferous or slightly elongated below the terminal tuft. Leaves narrow-linear, obtuse or rather acute, but without fine points, erect or slightly spreading, 1 to 2 in. long. Scape often above 1 ft. long, with or rarely without small, scattered, bract-like leaves. Raceme loose, 2 to 6 in. long, simple or compound, the peduncles bearing above the middle a small bract, and sometimes 2 or 3 pedicellate flowers. Flowers small, violet-purple or rarely "variegated or yellow" (*Preiss*). Calyx-lobes free, as long as the tube. Corolla with small appendages to the throat, but none to the labellum. Capsule small, ovoid-globular.—DC. Prod. vii. 334; Sond. in Pl. Preiss. i. 377; Bauer, *Illustr.* t. 5.

W. Australia. King George's Sound and adjoining districts, *R. Brown* and many others, *Drummond*, 3rd Coll. n. 173, 174, 175, and *Suppl.* n. 79, 81, 82. It is possible that the specimens said to have variegated flowers may be hybrids.

16. ***S. luteum***, *R. Br. Prod.* 570. Very near *S. violaceum*, with nearly the same habit and foliage, but rather more slender, and the inflorescence and sometimes also the base of the scapes and foliage more or less glandular-pubescent; the minute leaves on the scape sometimes but not always collected into 1 or 2 minute whorls, thus connecting this series with the next, the flowers yellow and sometimes rather larger than in *S. violaceum*, the capsule also larger and glandular-villous.—DC. Prod. vii. 334.

W. Australia. King George's Sound, *R. Brown*, *M'Lean*, *Drummond*, n. 112, *F. Mueller*. When the minute whorled leaves on the scape are present, this species may be distinguished from *S. amœnum* by the narrow leaves, from *S. Brunonianum* by the minuteness of the whorl. It will, however, probably prove to be not specifically distinct from *S. violaceum*, and possibly the larger-fruited specimens which I have here included, may be rather referable to *S. caespitosum*, but the limits of this species can only be determined by the examination of fresh flowers.

17. ***S. piliferum***, *R. Br. Prod.* 569. Glabrous or with short glandular hairs on the inflorescence, and sometimes on the margins of the leaves. Stock tufted, not proliferous. Leaves all radical in a dense tuft, which is

almost globular when they are small, linear or narrowly linear-spathulate, ending in a fine often long and hair-like point, about $\frac{1}{2}$ in. long in the smaller specimens, $1\frac{1}{2}$ in the luxuriant forms. Scape from 3 or 4 in. to above 1 ft. high, the upper portion occupied by a loose, simple or slightly-branched raceme, the peduncles always bearing 1 or 2 bracts. Calyx-lobes free. Corolla variable in size, yellowish or according to others white tinged with purple or pink, with appendages to the labellum but none to the throat. Capsule obovoid, about 2 lines long.—DC. Prod. vii. 333; *S. bicolor*, Lindl. Swan Riv. App. 28, Sond. in Pl. Preiss. i. 374.

W. Australia. King George's Sound, *R. Brown*, *Barter*, *A. Cunningham*: Stirling range and Upper Kalgan, *F. Mueller*; Swan River, *Drummond*, 1st Coll. n. 545 in some collections, 546 in others, *Preiss*, n. 2276. *Drummond's* 5th Coll. Suppl. n. 97 is a rather broader-leaved form, which we have also from Swan River, *Collie*, and *Drummond's* 2nd Coll. n. 277, has a more branching raceme, like that of *S. ciliatum*, but nearly glabrous.

18. ***S. ciliatum***, Lindl. Swan Riv. App. 28. Resembles *S. piliferum*, and perhaps a variety distinguished by the longer and more copious yellowish glandular hairs which clothe the inflorescence and sometimes also the base of the scape and foliage. Stock tufted. Leaves linear, 1 to $1\frac{1}{2}$ in. long, terminating in a hair-like point. Scape 6 in. to 1 ft. high. Panicle or raceme from shortly pyramidal to narrow and 3 or 4 in. long, the peduncles mostly branched, but not really corymbose as in *S. soboliferum*. Calyx-lobes free. Corolla more or less yellow (or sometimes white or pink?), variable in size, the appendages of the throat and labellum small or wanting. Capsule obovoid, turbinate, 2 to $2\frac{1}{2}$ lines long.—Bot. Mag. t. 3883, Sond. in Pl. Preiss. i. 374; *S. saxifragoides*, Lindl. Swan Riv. App. 28, Bot. Mag. t. 4529, (copied in Lem. Jard. Fleur. t. 34), Sond. l.c. 374 (with rather broader leaves); *S. hispidum*, Lindl. l.c. 29, Sond. l.c. 375; *S. setigerum*, DC. Prod. vii. 782.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 544 in some collections, 545 in others; *Preiss*, n. 2269, 2277. Tone and Murchison rivers, *Oldfield*, Mongerup and eastward to Cape Le Grand, *Maxwell*. There seems at first sight considerable difference between the two forms figured in the 'Botanical Magazine,' but there are too many intermediates to admit them as distinct varieties, and, probably, the whole must be reduced to *S. piliferum*. The *S. pubigerum* much resembles this species, but may be readily known by the linear ovary and capsule.

19. ***S. soboliferum***, *F. Muell.* in Hook. Kew Journ. viii. 162, and in Trans. Vict. Inst. 131. Stock small, densely tufted. Leaves all radical, forming an almost globular tuft, linear or narrow linear-cuneate, rarely $\frac{1}{2}$ in. long, ending in a long, hair-like point, glabrous. Scapes slender, leafless, 3 to 6 in. long, glabrous at the base or with a few glandular hairs. Flowers all pedicellate, in a loose, almost dichotomous, glandular-pubescent corymb, reduced sometimes to 3 or 4 flowers. Calyx $1\frac{1}{2}$ lines long; the lobes free, obtuse, as long as the tube. Corolla "pale pink or white," the throat naked or with very small stipitate glands; labellum obtuse, with small appendages. Capsule ovoid, 2 to $2\frac{1}{2}$ lines long.

Victoria. Sandy, stony declivities of the Grampians, Serra, and Victoria ranges, *F. Mueller* and others. The foliage is that of the small specimens of *S. piliferum*, but the inflorescence different.

20. ***S. Floodii***, *F. Muell.* Fragm. i. 119. A slender annual, some-

times shortly proliferous at the base. Leaves all radical or in a second tuft at the end of the short stem, very narrow-linear, almost filiform, obtuse or acute, $\frac{1}{2}$ to 1 in. long, glabrous or sprinkled with a few hairs. Scapes or peduncles usually several, leafless, slender, 3 to 6 in. high, usually sprinkled with a few hairs at the base, the inflorescence glandular-pubescent. Flowers very small, in loose, more or less corymbose panicles, all pedicellate. Calyx a little more than 1 line long, the lobes short and obtuse, free or the 2 lower ones united. Corolla "pink," the tube longer than the calyx-lobes, the lobes unequal, the throat with or without small appendages, the labellum without any. Capsule ovoid, 1 to $1\frac{1}{2}$ lines long.

N. Australia. Gravelly banks of the Upper Victoria and Roper rivers, *F. Mueller*.
Queensland. Sources of Cape river, *Bowman*.

21. ***S. dispermum***, *F. Muell. Fragm.* iv. 93. Stock thick, crowned by a sort of bulb formed by the bases of old leaves. Leaves all radical, linear, mucronate, rather rigid, 1 to 2 in. long, glabrous and smooth or with scabrous margins. Scapes glandular-pubescent, 4 to 6 in. high, leafless except the bracts, branching from near the base into a broad, almost corymbose, glandular-pubescent or villous panicle. Flowers shortly pedicellate, very small and numerous. Calyx-lobes free, as long as the tube. Corolla with 2 prominent, fringed, glandular appendages, which appear to be on each side of the labellum (in the throat, *F. Mueller*). Capsule globular, about 1 line diameter. Ovules 6 to 8 in each cell of the ovary, crowded near the top of the dissepiment, but only 1 or 2 in each cell come to maturity.

W. Australia. Moist, gravelly places, Murchison river, *Oldfield*.

SERIES 4. ANDROSACEÆ. Slender annuals, with small, rosulate, radical leaves, and few-flowered, loosely-corymbose panicles. Labellum long, ascending. Stigma stipitate between the anthers. Capsule globular.

22. ***S. calcaratum***, *R. Br. Prod.* 570. A slender annual, sprinkled with glandular hairs, especially on the inflorescence. Leaves all radical, rosulate, ovate or orbicular, 1 to 3 lines long, on short, slender petioles. Scape usually 3 to 4 in. high, but sometimes not 1 in., simple and 1-flowered or more frequently branched at the top into a very loose, irregular corymb of 5 to 9 pink flowers, with small bracts under and sometimes on the branches or long pedicels. Calyx-tube almost globular, about 1 line long, the lobes as long, free, oblong, obtuse. Corolla-tube very short, produced on the side opposite the labellum into a slightly incurved spur, usually nearly as long as the calyx-lobes, sometimes longer than them or very short and reduced to a small protuberance. Corolla-lobes nearly equal or 2 rather shorter; the labellum scarcely shorter, narrow, concave, ascending, more or less denticulate at the end or rarely quite entire, and no appendages to the throat. Stigma bearded and stipitate between the anthers. Capsule nearly globular.—DC. *Prod.* vii. 335; *Bauer, Illustr.* t. 15; *S. androsaceum*, *Lindl. Swan Riv. App.* 29; *S. Lindleyanum*, *Sond. in Pl. Preiss.* i. 390.

Victoria. Grampians, *F. Mueller*.

S. Australia. Near Echunga, *F. Mueller*.

W. Australia. King George's Sound and adjoining districts, *R. Brown, Oldfield, F. Mueller*, and others, to Swan River; *Drummond, 1st Coll.* n. 511, 512, 513, 571, *2nd Coll.* n. 279, 280; *Preiss, n.* 2245.

23. **S. perpusillum**, *Hook. f. in Hook. Lond. Journ.* vi. 266, and *Fl. Tasm.* i. 235. A slender annual of 1 to 2 in., sprinkled with glandular hairs, closely resembling the smaller forms of *S. calcaratum*, but without any spur or protuberance to the tube of the corolla. Leaves rosulate, linear-spathulate or obovate, rarely above 1 line long. Flowers small, few, in a loose corymb or solitary. Calyx and capsule of *S. calcaratum* and corolla also the same, except the absence of the spur. Stigma bearded and stipitate.—*S. perminutum*, *F. Muell. Fragm.* vi. 78.

Victoria. Serra Ranges and Mount M'Ivor, *F. Mueller*; near Portland, *Allitt*.

Tasmania. Wet, sandy soil, Georgetown, *Gunn*.

W. Australia. Salt lake, Middle Island, *Maxwell*; sandy swamps and wet rocks between King George's Sound and Mount Perongerup, *F. Mueller*.

SERIES 5. SPATHULATE. Tufted or proliferous perennials or annuals. Leaves all radical or in terminal tufts, from linear-spathulate to obovate. Stigma concealed between the anthers. Capsule ovoid or oblong.

24. **S. eriorhizum**, *R. Br. Prod.* 569. Stock tufted, the base of the leaves when old enveloped in a short, dense wool. Leaves all radical, from obovate to narrow-spathulate, from 1 to 2 or rarely near 3 in. long, rounded at the end, but with a fine, sometimes hair-like point, edged with a short, woolly pubescence, otherwise glabrous or sprinkled with a few short glandular hairs. Scapes glandular-pubescent, 4 to 8 in. high, the greater part occupied by a loose but narrow panicle. Calyx-lobes cohering at the base into 2 lips. Corolla small, "pink or nearly white;" the labellum convex with very short appendages, the throat without any. Capsule narrow-ovoid.—*DC. Prod.* vii. 334; *F. Muell. Fragm.* i. 147.

Queensland. Shoalwater Bay, *R. Brown*; Sutter river, *F. Mueller*; Rockingham Bay, *Dallachy*; Broad Sound, Connor and Isaacs rivers, *Burman*; Dogwood Creek, *Leichhardt*.

25. **S. debile**, *F. Muell. Fragm.* i. 149. Glabrous or with a very slight glandular pubescence on the inflorescence, and apparently annual or perhaps with a very slender rootstock. Stems slender, often 4 or 5 in. long, bearing a few leaves below the terminal tuft or rosette. Leaves obovate oblanceolate or spathulate, mucronate-acute, $\frac{1}{2}$ to 1 in. long, including the petiole, usually thin. Scape filiform, from a few in. to 1½ ft. long, the greater part occupied by a slender raceme, quite simple, or the lower peduncles rarely 2-flowered, the pedicels all short, with 1 or 2 bracts. Calyx-lobes short and very obtuse, the 2 lower ones often united. Corolla-lobes unequal, undivided, without appendages to the throat but with small ones to the labellum. Capsule narrow-oblong, about 4 lines long.

Queensland. Brisbane river, Moreton Bay, *F. Mueller*; Port Curtis, *M'Gillivray*.

N. S. Wales. Hastings river, *Deckler*; Richmond river, *Fawcett*; New England, *C. Stuart*.

The species has very much the aspect of a *Lobelia*.

26. **S. floribundum**, *R. Br. Prod.* 569. Apparently annual. Leaves radical, rosulate, petiolate, oblong oblanceolate or spathulate, acute or obtuse, $\frac{3}{4}$ to 1½ in. long, thin and glabrous. Scape filiform, $\frac{1}{2}$ to 1 ft. long, clothed with long spreading glandless hairs, nearly simple or paniculately branched;

leafless except the minute bracts. Flowers small, on slender pedicels. Calyx scarcely 2 lines long, the lobes free, narrow and very small. Corolla scarcely twice as long as the calyx-lobes; the labellum with 2 small appendages, but none to the throat. Capsule oblong-clavate, 2 lines long. DC. Prod. vii. 334; F. Muell. Fragm. i. 148.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; moist, shady places at the sources of Wentworth river, and near M'Adam range, *F. Mueller*.

27. ***S. leptorhizum***, *F. Muell. Fragm.* i. 148. Apparently annual, but the slender stem sometimes 1 to 3 in. long, bearing a few leaves below the terminal tuft or rosette, quite glabrous as well as the leaves, or sprinkled with a few short glandular hairs. Leaves rosulate, from oblanceolate to obovate or spatulate, obtuse or mucronate-acute, thin and membranous, often almost glaucous, $\frac{1}{2}$ to 1 or rarely 2 in. long, including the petiole. Scape slender, leafless, except the minute bracts, from 2 or 3 in. to $1\frac{1}{2}$ ft. long, glabrous or glandular hairy. Flowers small, in a slender, very loosely-branched panicle or raceme along its branches, with or without one in the fork, all on rather long slender pedicels without bracteoles. Calyx-lobes free, narrow and small. Corolla-lobes unequal (the 2 uppermost more united?), the labellum with 2 appendages, but none to the throat, or, according to F. Mueller, the appendages to the throat and not to the labellum. Capsule oblong-clavate, 2 lines long. *S. scarpitulum*, F. Muell. Fragm. i. 147.

N. Australia. Greville's Island, Roper river, N. Coast, *A. Cunningham* (in Herb. R. Br.); dry pastures on the Victoria river and between M'Adam Range and Providence Hill, *F. Mueller*; Port Essington, *Armstrong*. The glandular hairs on the staminal column mentioned by F. Mueller appear to be very inconstant, sometimes rather copious, sometimes very few or none.

Vari. pilosum. Leaves, scapes and inflorescence glandular-hairy.—Van Diemen's Gulf, N.W. Coast, *A. Cunningham*.

28. ***S. assimile***, *R. Br. Prod.* 569. Glabrous, except the glandular pubescent inflorescence. Stock tufted, rather thick. Leaves all radical, oblong-spatulate to almost linear, very obtuse, thick and turning black when dry, often glaucous underneath. Scapes solitary or several together, from 3 or 4 in. to nearly 1 ft. high, divided from below the middle into a loose, pyramidal panicle. Flowers small. Calyx-lobes free. Corolla "with appendages to the labellum but none to the throat." Capsule ovoid, rather narrow.—DC. Prod. vii. 333; Sond. in Pl. Preiss. i. 377.

W. Australia. King George's Sound and adjoining districts, *R. Brown* and others, *Durand*, 5th Coll. n. 346 and *Sepp.* n. 80, *Preiss.* n. 2272; Fitzgerald Ranges, Esperance Bay, and Cape Paisley, *Maxwell*.

29. ***S. rupestre***, *Sond. in Pl. Preiss.* i. 375. Very closely allied to *S. spatulatum*, with the same pubescent, spatulate leaves, simple inflorescence and flowers, but the stock is always proliferous-branched, the leaves much smaller, not exceeding $\frac{1}{2}$ in. in length, in dense, rosulate, terminal tufts, and the racemes very loose, usually reduced to 2 or 3 flowers on long pedicels. *S. glaucum*, *R. Br. Prod.* 569, not of Labill.; *S. glaucum*, β ? *Brownei*, DC. Prod. vii. 334; *S. Lehmannianum*, *Sond. in Pl. Preiss.* i. 375.

W. Australia. King George's Sound, *Baxter*, *Preiss.* n. 2261, and eastward to Cape Riche, *Preiss.* n. 2262, *Durand*, 5th Coll. n. 352; Lucky Bay, *R. Brown*; Cape Arid





F. M. 1847

F. M. 1847

F. M. 1847

Stylidium Barleei F. M. (1847)

and Cape Paisley, *Macwell*. This will probably prove to be a variety only of *S. spathulatum*.

30. ***S. spathulatum***, *R. Br. Prod.* 569. Stock tufted or shortly proliferous. Leaves radical, rosulate, from obovate to oblong-spathulate, obtuse or acute, more or less pubescent or sprinkled with glandular hairs on both sides, $\frac{1}{2}$ to $1\frac{1}{2}$ in. long including the petiole. Scares glabrous or pubescent, from a few inches to $1\frac{1}{2}$ ft. high, including the loose, elongated, simple raceme. Flowers small, pedicellate. Calyx-lobes free. Corolla pale yellow, with appendages usually both to the throat and the labellum. Capsule narrowly obovoid-oblong.—*DC. Prod.* vii. 333; *S. bellidifolia*, *Sond. in Pl. Preiss.* i. 376.

W. Australia. King George's Sound and adjoining districts, *R. Brown* and others, *Drummond*, n. 130, *2nd Coll.* n. 273, *3rd Coll.* n. 167, 177, *5th Coll.* n. 352, *Preiss.* n. 2259.

31. ***S. Barleei***, *F. Muell. Fragm.* vi. 5. t. 69. Stock tufted or shortly proliferous. Leaves rosulate, ovate or spathulate, striate and prominently but irregularly toothed, glandular-pubescent on both sides, 1 to $1\frac{1}{2}$ in. long including the long petiole. Scape slender, often above 1 ft. long, glandular-pubescent, bearing occasionally 2 or 3 small, scale-like leaves below the inflorescence. Raceme long, loose, simple, with small, linear bracts, the pedicels longer than the calyx. Calyx not 3 lines long, the lobes free, as long as the tube. Corolla small, with glandular appendages to the throat; labellum ending in a fine point, without appendages at the base. Capsule ovoid, often oblique, scarcely $1\frac{1}{2}$ lines long.

W. Australia. *Drummond*, n. 129, *2nd Coll.* n. 274. The toothed leaves, exceptional in the genus, if constant, readily distinguish this species, which is otherwise very near *S. spathulatum*.

32. ***S. lineatum***, *Sond. in Pl. Preiss.* i. 376. Stock hard, tufted. Leaves rosulate, obovate or spathulate, obtuse, striate, sprinkled upon the upper or both surfaces with long, glandular hairs, rarely exceeding 1 in. including the petiole. Scape 1 to $1\frac{1}{2}$ ft. high, with a few, scattered, scale-like leaves below the inflorescence, glabrous or glandular-hairy. Racemes rather long and loose, simple or the lower peduncles with 2 or 3 flowers, all the pedicels longer than the calyx. Calyx-lobes free, longer than the tube. Corolla with very conspicuous appendages to the throat, but none to the small, convex labellum. Capsule ovoid, but not seen ripe.

W. Australia. Swan River, *Drummond*, *1st Coll.*

33. ***S. glaucum***, *Labill. Pl. Nov. Holl.* ii. 64. t. 214. Quite glabrous or very slightly glandular-pubescent, especially the inflorescence. Stock tufted or rarely lengthening out into a leafy stem of 2 or 3 in. Leaves radical and rosulate or tufted at the end of the stock, from obovate to oblong-spathulate, sometimes rather narrow, obtuse or mucronate-acute, often glaucous underneath, mostly 1 to $1\frac{1}{2}$ in. long including the petiole. Scape $\frac{1}{2}$ to about 1 ft. high, often with a few, very small, scale-like leaves below the inflorescence, but scattered and not in whorls. Flowers rather small, in a long, simple, loose raceme. Calyx-lobes free. Corolla with appendages

both to the throat and labellum. Capsule shortly ovoid.—DC. Prod. vii. 334 (excl. var. β .); *Candollea glauca*, Labill. in Ann. Mus. Par. vi. 454. t. 64; *S. nudum*, Lindl. Swan Riv. App. 29.

W. Australia. King George's Sound and adjoining districts, *A. Cunningham. Maclean, Harvey, Drummond, 4th Coll. n. 174, 3rd Coll. n. 178.* Our specimen of Preiss's n. 2237, referred by Sonder, Pl. Preiss. i. 378, to *S. amcenum*, has not the verticillate leaves of that species, and seems to belong to *S. glaucum*. This, the chief character which separates the two species, may not, however, be constant.

SERIES 6. DIVERSIFOLIÆ. Leaves rosulate or tufted on the stock or shortly proliferous stem, without intermixture of scarious scales, but with the addition of 1, 2 or more whorls of smaller narrow leaves on the scape below the inflorescence.

34. ***S. amcenum*, R. Br. Prod. 570.** Glabrous, except the glandular-pubescent inflorescence. Stock tufted or shortly proliferous. Radical leaves oblanceolate spatulate or almost obovate, mucronate-acuminate, $\frac{1}{4}$ to $1\frac{1}{2}$ in. long including the petiole, rather thick, scarcely striate, often glaucous underneath, quite entire or slightly denticulate at the end. Scape $\frac{1}{2}$ to $1\frac{1}{2}$ or even 2 ft. high, with a single whorl of small, narrow, acute leaves above the middle. Raceme rather loose, 2 to 4 in. long, simple or very rarely the lower peduncles 2-flowered. Pedicels longer than the calyx. Calyx-lobes free. Corolla "bluish" or "pink," usually violet when dry, the throat with very few appendages, the labellum without any, but ending in a fine point. Capsule ovoid-globular, about $1\frac{1}{2}$ lines long.—DC. Prod. vii. 334.

W. Australia. King George's Sound, *R. Brown, Baxter*; Cape Naturaliste and Blackwood river, *Oldfield*; Stirling Range and Toolbrunup Lake, *Maxwell. Drummond's 3rd Coll. n. 178*, seems also to be the same species, which scarcely differs from *S. glaucum*, except in the whorl of leaves on the scape, and even this is sometimes very minute so as to be easily overlooked.

Var. *caulescens*. Stock shortly proliferous or lengthening out below the terminal tuft into a leafy stem of 1 to 2 in.—*S. caulescens*, Lindl. Swan Riv. App. 29; DC. Prod. vii. 782; Sond. in Pl. Preiss. i. 378.—Swan River, *Drummond, 1st Coll. n. 528*, also n. 27.

35. ***S. striatum*, Lindl. Swan Riv. App. 28.** Glabrous or the inflorescence slightly glandular-pubescent. Stock densely tufted or slightly proliferous. Leaves oblanceolate or oblong-spatulate, acute, rather rigid, prominently striate and slightly glaucous in the typical form. Scapes 1 to 2 ft. high, usually with a single whorl of very small, oblong-linear leaves above the middle, which, however, is wanting in a few of the smaller specimens. Racemes 3 to 6 in. long, rather loose, simple or the lower peduncles slightly branched, the pedicels longer than the ovary. Calyx-lobes free, longer than the ovary. Corolla with appendages to the throat but none to the labellum. Capsule shortly ovate, but not seen ripe.

W. Australia. Swan River, *Drummond, 1st Coll. and n. 125; n. 25 and 2nd Coll. n. 278* are larger specimens, often with 2 whorls on the scape.

Var. *glaucum*. Leaves less rigid, more obtuse, often longer, glaucous underneath, those on the scape broader than in the typical form, the raceme looser, often branched.—*S. striatum*, Sond. in Pl. Preiss. i. 379.—Swan River, *Preiss, n. 2238*; Swan and Vasse rivers, *Oldfield*, also *Drummond, 5th Coll. n. 348, 349.*

36. ***S. diversifolium*, R. Br. Prod. 570.** Glabrous, except the more

or less glandular-pubescent inflorescence. Stock tufted, usually crowned by the bulb-like, persistent bases of the leaves. Leaves radical, from broadly obovate or orbicular to ovate or spatulate, 1 to 2 in. long including the rather long petiole, obtuse, thick, often glaucous underneath. Scapes 1 to 2 ft. long, with 1, 2, 3 or rarely 4 whorls of small, narrow, acute leaves. Raceme slender, simple, 2 to 4 in. long, the pedicels all short and 1-flowered or rarely the lower ones 2-flowered. Calyx-lobes free, longer than the ovary. Corolla almost without appendage, the labellum ending in a fine point. Capsule nearly globular, not above $1\frac{1}{2}$ lines long. —DC. Prod. vii. 334; *S. marginalum* and *S. pruinosum*, Sond. in Pl. Preiss. i. 379.

W. Australia. King George's Sound, *R. Brown, Baxter, Preiss, n. 2236*, to Swan River, *Drummond, 1st Coll. n. 529, Preiss, n. 2232*, and Vasse river, *Oldfield*. The species may be confounded at first sight with *S. carnosum*, but is readily distinguished by the absence of the scarious scales on the stock, and the presence of verticillate leaves on the scape.

37. ***S. articulatum***, *R. Br. Prod.* 570. Glabrous, except the glandular-pubescent inflorescence. Stock tufted, often very thick or more or less proliferous. Radical leaves oblong-spatulate, obtuse or mucronate-acute, narrowed into a long petiole, attaining with the petiole 4 in. in the larger specimens, 2 in. in the smaller ones, rather thick, glaucous underneath. Scape varying from $\frac{1}{2}$ to $1\frac{1}{2}$ ft. high, but usually rather short, stout, bearing 1 or 2 whorls of small, linear or lanceolate leaves. Raceme or panicle dense, 2 to 4 in. long, the peduncles short, but the lower ones often with 2 or 3 flowers. Calyx-lobes free. Corolla rather large, the appendages of the throat very prominent, the labellum apparently without any. Capsule ovoid-oblong, fully 3 lines long.—DC. Prod. vii. 334.

W. Australia. King George's Sound, *R. Brown, Baxter, Drummond, 4th Coll. n. 173*. Readily known by its stout habit, short inflorescence, and large capsule.

S. robustum, Sond. in Pl. Preiss. i. 378, from Sussex district, Preiss. n. 2235, which I have not seen, is probably, as he suggests, a very tall specimen of this species; he describes the capsule, however, as only 2 lines long.

38. ***S. Brunonianum***, *Benth. in Hueg. Enum.* 72. Glabrous and often glaucous, even the inflorescence scarcely glandular. Stock tufted or rarely shortly proliferous. Radical leaves from linear to oblanceolate, acute or rarely almost obtuse, 1 to 2 in. long or even longer, rather flaccid and scarcely striate. Scapes 1 to $1\frac{1}{2}$ ft. long or rarely under 1 ft. with 2 to 5, usually 3 or 4, whorls of narrow, acute leaves. Raceme loose, 2 to 4 in. long, with numerous small flowers, the pedicels usually bracteate but rarely 2-flowered, the lowest often collected in whorls. Calyx-lobes free. Corolla with appendages to the throat, the labellum without any or with very small ones. Capsule small, globular.—DC. Prod. vii. 334; Sond. in Pl. Preiss. i. 380; Bot. Reg. 1842, t. 15; *S. compressum*, Lindl. Swan Riv. App. 29.

W. Australia. Swan River, *Drummond, 1st Coll. n. 521 or 527, also n. 13 and 3rd Coll. n. 176*; Murchison river, *Oldfield*.

Var. *minor*. Smaller, with small, very acute leaves, $\frac{1}{2}$ to $\frac{3}{4}$ in. long.—*S. tenax*, Sond. in Pl. Preiss. i. 350.—Kalam and Harvey rivers, *Oldfield*; foot of Stirling Ranges, *F. Mueller*, also *Drummond, (4th Coll. n. 170)*. This variety almost connects the species with *S. diuroides*. The flowers are pink (*F. Mueller*).

39. **S. diuroides**, *Linkl. Swan Riv. App.* 29. Glabrous, except the slightly glandular inflorescence. Stock tufted or rarely shortly proliferous, densely covered with the persistent bases of old leaves. Radical leaves densely tufted, linear-subulate, acute or almost obtuse, the base scarcely dilated, usually about 1 in. long. Scapes 4 to 8 in. high, with a single whorl of setaceous leaves. Raceme loose, 1 to $1\frac{1}{2}$ in. long, the lower pedicels rather long and bracteate but rarely 2-flowered. Flowers small. Calyx-lobes free, narrow. Corolla with short, broad appendages to the throat, but none to the acuminate labellum.—Sond. in *Pl. Preiss.* i. 380.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 536, 537, 3rd Coll. n. 170.

SERIES 7. VERTICILLATÆ. Stems elongated, simple or branched, the leaves all in distinct, whorl-like tufts, the lower ones not larger.

40. **S. scandens**, *R. Br. Prod.* 570. Quite glabrous, the stems in small specimens slender but nearly erect and simple, when luxuriant very flexuose or climbing to the height of 2 or 3 ft. and branching at some of the nodes. Leaves all collected in dense, whorl-like, distant tufts, without scattered ones between the tufts, linear, 1 to 2 in. or even longer when luxuriant, with a hooked or involute point. Racemes terminal, solitary or 2 or 3 together, shortly pedunculate, loose but few-flowered, and almost always simple. Pedicels bracteolate, longer than the calyx. Calyx-lobes free, as long as the ovary. Corolla pink, with more or less prominent appendages to the throat and labellum. Capsule broadly ovoid or globular.—DC. *Prod.* vii. 334; Sond. in *Pl. Preiss.* i. 381; *Bot. Mag.* t. 3136; *Pact. Mag.* xv. 149, with a figure.

W. Australia. King George's Sound and adjoining districts, *R. Brown* and others, and thence to Vasse river, *Oldfield*, and eastward to Mount Bland, *Maxwell*, also *Drummond*, n. 5, 111, 123, 2nd Coll. n. 275, 4th Coll. n. 49, *Preiss.* n. 2295, 2296.

41. **S. verticillatum**, *F. Muell. Fragm.* iv. 91. Glabrous, except the inflorescence. Stems slender, elongated, flexuose or climbing and branching at the nodes as in *S. scandens*. Leaves all collected in dense, whorl-like, distant tufts without scattered ones between the tufts, narrow-linear, acute, not much exceeding $\frac{1}{2}$ in. Peduncles hirsute with long, spreading, glandular hairs, bearing a loose cyme or short raceme of few flowers. Calyx-lobes free, as long as the tube, very narrow. Capsule ovoid, hispid, about 2 lines long.

W. Australia. *Drummond*, n. 93; Stirling Range, *Maxwell*. Scarcely differs from the smaller forms of *S. scandens*, except in the hirsute inflorescence.

SERIES 8. SPARSIFOLIÆ. Undershrubs or shrubs, with linear, spreading leaves scattered along the branches, and not collected in radical or terminal tufts.

42. **S. glandulosum**, *Salisb. Parad. Lond.* t. 77. An erect or spreading undershrub or shrub, $\frac{1}{2}$ to $1\frac{1}{2}$ ft. high, the branches covered with the cartilaginous, adnate bases of the petioles. Leaves scattered, but rather crowded along the branches, not collected in terminal tufts, linear, mucronate, under 1 in. long, glabrous or, especially the upper ones, slightly glan-

dular-pubescent. Panicles terminal, loosely branched, copiously glandular-pubescent, pedunculate or the lower branches proceeding from the base. Pedicels short. Calyx-lobes shorter than the ovary, free or shortly united in 2 lips. Corolla without appendages to the throat, but with linear ones to the labellum. Epigynous glands more prominent than in most species. Capsule ovoid, rather narrow, nearly 3 lines long.—*S. fruticosum*, R. Br. Prod. 570; DC. Prod. vii. 335.

W. Australia. Lucky Bay, *Brown, Baxter.*

43. ***S. laricifolium***, *Rich. in Pers. Syn.* ii. 210. An under-shrub with elongated leafy branches, rarely exceeding 1 ft. without the inflorescence, quite glabrous or the inflorescence sparingly glandular-pubescent, and so sometimes a few hairs sprinkled on the foliage. Leaves scattered but rather crowded along the branches, not collected in terminal tufts, narrow-linear, mucronate, usually $\frac{1}{2}$ to 1 in. long, not leaving the adnate bases of those of *S. glandulosum*. Panicle or raceme loose, pedunculate, often above 6 in. long. Pedicels longer and the ovary more attenuate at both ends than in *S. glandulosum*. Calyx-lobes free, shorter than the ovary. Corolla with appendages to the labellum, but usually without any to the throat. Capsule oblong-turbinate, 4 to 6 lines long.—DC. Prod. vii. 335; *Juss. in Ann. Mus. Par.* xviii. 19. t. 3; *Hook. Exot. Fl.* t. 32; *Bot. Reg.* t. 550; *S. tenuifolium*, R. Br. Prod. 570; *Link et Otto, Pl. Sel.* t. 26; *Bot. Mag.* t. 2249.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, Sieber*, n. 172, and others; northward to New England, *C. Stuart*; southward to Illawarra, *Shepherd*; the latter luxuriant specimens with leaves 1 to 2 in. long.

SERIES 9. IMBRICATÆ. Stems slender, branching but hard, covered with small imbricate, almost scale-like leaves, not collected in terminal or radical tufts.

44. ***S. Preissii***, *F. Muell. Fragm.* iii. 122. Stems simple or dichotomously branched, often flexuose, rarely above 3 in. high, completely covered with the closely-imbricated, scale-like leaves. These are ovate-lanceolate, acute, $\frac{1}{2}$ to $\frac{3}{4}$ line long, with broad scarious, more or less ciliate margins and tips. Flowers 2 to 4, sessile within the last leaves, surrounded by scarious transparent bracts. Calyx $1\frac{1}{2}$ lines long, the lobes broad and very obtuse, much longer than the tube, free or nearly so, but very much imbricate, the ends scarious and streaked with red. Corolla-tube shorter than the calyx-lobes, the throat without appendages, but the labellum fringed with long hairs. Capsule not seen.—*Forsteropsis Preissii*, *Sond. in Pl. Preiss.* i. 393.

W. Australia. *Drummond*, 5th Coll. n. 347; Cape Riche, *Preiss*, n. 438, from the Fitzgerald Range to Cape le Grand, *Maxwell*. This and the two following species have a very peculiar habit, and *Sonder* proposed the present one as a distinct genus, characterizing it by the ovary and capsule 1-celled, with a central placenta. The ovary appears to me, however, to be in fact 2-celled, but the very thin dissipient splits very readily on each side of the placenta, which is thus left free as the capsule dries, but this is the case with several other *Stylidia*; and the structure of the flowers, as well as of the fruit of *Forsteropsis*, appear to me to be entirely those of *Stylidium*.

45. ***S. imbricatum***, *Benth. in Hueg. Enum.* 73. Stems hard but

slender, simple or branched, erect or flexuose, $\frac{1}{2}$ to $1\frac{1}{2}$ ft. high, entirely covered with closely-imbricated, scale-like leaves. These are ovate, mucronate or aristate, with more or less scarious margins, $\frac{1}{2}$ to 1 line long, the upper ones narrower and more acuminate. Raceme terminal, sessile, simple or scarcely compound, $\frac{1}{2}$ to 1 in. long; the almost sessile flowers intermixed with scale-like bracts similar to the leaves, but more acuminate, with usually a few woolly hairs on the rhachis and a few glandular ones on the calyx. Calyx $1\frac{1}{2}$ lines long; the lobes obtuse, free or nearly so, rather longer than the tube. Corolla-tube longer than the calyx-lobes, but not always twice as long; the throat with small appendages; the labellum ciliate. Capsule apparently ovoid, but not seen ripe.—DC. Prod. vii. 337.

W. Australia. King George's Sound, *Baxter*, *Hughes*, towards Cape Riche, *Harvey*, *Marshall*.

46. **S. adpressum**, *Benth.* Stems simple or slightly branched, in our specimens 2 to 3 in. high, covered with the small imbricate leaves. These are lanceolate, concave or triangular, rigid, acute or mucronate, about 1 line long, glabrous or scarcely ciliate, less closely appressed than in the preceding two species. Peduncles terminal, glandular-hairy, 2 to 3 lines long, bearing a short compact raceme or head of 3 to 6 small flowers, surrounded by a few small rigid bracts. Calyx glandular-hispid, the lobes acute, free or nearly so, rather longer than the tube. Corolla-tube not exceeding the calyx-lobes, the appendages apparently as in *S. imbricatum*, but not seen very distinctly. Capsule ovoid, small, but not seen ripe.

W. Australia, *Drummond*, 2nd Coll. n. 38, 3rd Coll. n. 152 (in some sets).

SECT. II. NITRANGIUM, *Endl.* Capsule linear or very narrow-oblong.

SERIES 10. TENELLE. Slender annuals. Leaves small or thin, alternate or scattered, the lower ones sometimes more crowded, but not distinctly tufted or rosulate.

47. **S. despectum**, *R. Br. Prod.* 571. A little erect glabrous annual of 1 to 3 or 4 in., sometimes very slender, sometimes rather firmer and branching in the upper part. Leaves small and scale-like, few and scattered, not rosulate or rarely a few longer narrow ones gathered together in a little loose tuft near the base, the others varying from ovate and under 1 line to lanceolate or linear and 2 or 3 lines long. Flowers pink, few, shortly pedicellate, forming an irregular corymb. Calyx about 2 lines long, the lobes very short, the 2 lower ones more or less united. Corolla scarcely exceeding the calyx-lobes, without appendages to the throat. Capsule linear, 3 lines long.—DC. Prod. vii. 336; Hook. f. Pl. Tasm. i. 235; *S. inundatum*, *R. Br. Prod.* 571; DC. Prod. vii. 336; Sond. in Pl. Preiss. i. 385.

Victoria. On the Yarra and Mount M'Ivor, *F. Mueller*; Mount Emu, *Wheat.*

Tasmania. Port Dalrymple, *R. Brown*; Western Plains, *Backhouse*; George Town, *Gunn*; King's Island, *M'Gowan*.

S. Australia. Mount Muirhead and St. Vincent's Gulf, *F. Mueller*.

W. Australia. King George's Sound, *R. Brown*, *F. Mueller*; Gordon, Murray, and Tweed rivers, *Oldfield*. The latter specimens belong to a large, slender variety. Brown's and Mueller's King George's Sound specimens have the same habit as the Port Dalrymple ones.

48. **S. utricularioides**, *Benth. in Hogg. Fl. Austr.* 73. A slender annual, glabrous or with a slight glandular pubescence on the inflorescence, 1 to 3 in. high, simple or scarcely branched at the top. Leaves scattered, linear or lanceolate, 1 to 2 lines long, the lower ones sometimes approximate but not rosulate. Flowers very few or solitary, pedicellate. Bracts small, setaceous. Calyx about $3\frac{1}{2}$ lines long, the lobes narrow, much shorter than the tube, free or more frequently partially united in 2 lips. Corolla-lobes fully twice as long as the calyx-lobes, with out appendages to the throat or to the labellum. Capsule linear, 3 to 4 lines long.—DC. Prod. vii. 336; Sond. in Pl. Preiss. i. 386.

W. Australia. Swan River, *Hogg, Fl. Austr.* n. 2246. Very near the slender forms of *S. despectum*, but the flowers are larger and the capsule longer.

49. **S. pygmæum**, *R. Br. Prod.* 571. A slender annual, glabrous or with a slight glandular pubescence on the inflorescence, 1 to 3 in. high, simple or scarcely branched at the top. Leaves scattered, linear or lanceolate, 1 to 2 lines long, the lower ones sometimes approximate but not rosulate. Flowers 1 to 3, sessile or very nearly so. Calyx about 2 lines long, the lobes free, narrow, about half as long as the tube. Corolla more than twice as long as the calyx-lobes, without appendages to the throat or labellum. Capsule oblong-linear, scarcely 2 lines long.—DC. Prod. vii. 336; Baur, *Illustr.* t. 15; Sond. in Pl. Preiss. i. 387?

W. Australia. King George's Sound, *R. Brown, Horteg.* Very near the slender forms of *S. despectum*, but readily known by the sessile flowers and shorter broader capsule.

50. **S. longitubum**, *Benth. in Hogg. Fl. Austr.* 73. An erect glabrous annual, resembling the larger forms of *S. despectum*, but at once known by the larger flowers and longer capsules. Stems 3 to 5 in. high, particularly branched above the middle. Leaves scattered, mostly near the base of the stem, but not rosulate, the lowest sometimes very short and ovate, the others oblong or linear, 1 to 3 lines long. Flowers all pedicellate, in a somewhat corymbose, loose panicle, the bracts very narrow and acute. Calyx-tube, at the time of flowering, 3 to 4 lines long, the lobes narrow, more or less united in 2 lips. Corolla at least twice as long as the calyx-lobes, with appendages to the throat. Capsule linear, 7 to 9 lines long.—DC. Prod. vii. 336; Sond. in Pl. Preiss. i. 386.

W. Australia. Swan River, *Dryander, 1st Coll.* n. 519. Sussex district, *Preiss.* n. 2251; Serpentine river, *Oldfield*. This species closely resembles the Indian *S. tenellum*, Swartz, but the inflorescence is more corymbose, the flowers all pedicellate, the bracts broader, and the corolla larger.

51. **S. diffusum**, *R. Br. Prod.* 571. A very slender, usually branched annual, glabrous or the inflorescence slightly glandular, erect and only 1 to 2 in. high or much longer and diffuse. Leaves very small, the lower ones approximate but not rosulate, linear or oblong, 1 to 2 lines long, the upper ones still smaller and narrow. Flowers lateral and sessile or terminal, the small bracts not opposite. Calyx-tube 4 to 5 lines long, the lobes free, narrow, not 1 line long. Corolla scarcely exceeding the calyx-lobes, the 2 larger lobes bifid. Capsule linear, often incurved, $\frac{1}{2}$ in. long or rather more.—DC. Prod. vii. 336.

Queensland. Shoalwater Bay, *R. Brown*. This may prove to be a very slender, usually diffuse variety of *S. tenellum*, Swartz.

52. ***S. fissilobum***, *F. Muell. Fragm.* i. 154. A weak, filiform annual of $\frac{1}{2}$ to $1\frac{1}{2}$ ft., paniculately branched at the top, glabrous or with a few small glandular hairs on the inflorescence. Leaves very small and scattered, the lower ones more approximate but not rosulate, 1 to $1\frac{1}{2}$ lines long, all linear-subulate. Panicle loose and somewhat corymbose. Flowers sessile. Calyx-tube long and filiform, the lobes linear-lanceolate, often partially united in 2 lips. Corolla twice as long as the calyx-lobes, the larger lobes bifid, with appendages both to the throat and labellum (*P. Marlier*). Capsule narrow-linear, $\frac{3}{4}$ to 1 in. long, very slender and beak-like at the end.

N. Australia. Grassy, inundated places on the Victoria river, between Main Camp and Steep Head, *F. Mueller*.

53. ***S. alsinoides***, *R. Br. Prod.* 572. A glabrous and weak but usually erect and branching annual of $\frac{1}{2}$ to nearly 1 ft. Leaves alternate or scattered below the inflorescence, shortly petiolate, broadly ovate, 2 to 4 lines long, obtuse and thin, the upper ones passing gradually into the narrow, acute, sessile floral leaves or bracts, which are almost always opposite. Flowers sessile in one axil of each pair of bracts. Calyx-tube linear, nearly $\frac{1}{2}$ in. long, the lobes narrow, not 1 line long, the 2 lower ones more or less united. Corolla very small, the lobes united at the base in pairs (without appendages?). Capsule linear, 8 to 9 lines long.—*DC. Prod.* vii. 337; *F. Muell. Fragm.* i. 151.

N. Australia. Victoria river towards Stokes Range (starved, with narrow leaves) and Wickham river, Gulf of Carpentaria, *F. Mueller*.

Queensland. Endeavour river, *Banks and Solander, A. Cunningham*; Lizard Island, *McGillivray*; Rockingham Bay, *Dallachy*.

S. mitrasacmoides, *F. Muell. Fragm.* i. 150, from Palm Island, Victoria river, *Flood*, seems to be a small, starved specimen of *S. alsinoides*; the bracts, as in the typical form, are mostly opposite.

54. ***S. tenerrimum***, *F. Muell. Fragm.* i. 150. A little glabrous annual, with weak, filiform, simple or slightly-branched stems of 1 to 3 in. Leaves scattered, lanceolate, acute, narrowed at the base, 1 to $1\frac{1}{2}$ lines long, the lower ones not more approximate and usually smaller. Flowers small, on rather long axillary and terminal pedicels. Calyx about 2 lines long, the lobes free, shorter than the tube. Corolla small, white, the lobes entire, with a dark spot at the base of each (*F. Mueller*). Capsule narrow-oblong or linear, contracted at the base, 2 to 3 lines long.

N. Australia. Margins of swamps between McAdam Range and Providence Hill, *F. Mueller*.

SERIES II. CORYMBULOSÆ. Slender annuals or small perennials. Leaves radical or at the ends of the short stems, rosulate or tufted. Scapes leafless except the bracts, rarely exceeding 6 in. Flowers corymbose or sessile in the forks or along the scape or its branches, or solitary.

55. ***S. brachyphyllum***, *Sond. in Pl. Preiss.* i. 386. A slender (annual?), glabrous except the slightly glandular inflorescence. Leaves rosulate or

forming a little tuft, but not bulbous, radical or at the top of a loosely-sheathed stem of 3 or 4 lines, linear, flaccid, 2 to 4 lines long. Scapes 2 to 4 in. high, branching upwards into a loose, irregular, almost corymbose panicle. Flowers all pedicellate. Calyx about 3 lines long, the lobes narrow, much shorter than the tube, the 2 upper ones sometimes united. Corolla twice as long as the calyx-lobes (without appendages?), the tube very short. Capsule narrow, about 3 lines long.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 518, 519, 523 (often mixed with *S. petiolare*), *Preiss*, n. 2245 (the specimen seen in Herb. F. Mueller, a very reduced slender form), Tone river, *Oldfield*.

56. ***S. capillare***, *R. Br. Prod.* 570. A little slender, glabrous annual. Leaves radical, rosulate, like those of *S. brachyphyllum* or more spatulate, 2 to 3 lines long. Scapes capillary, 1 to 2 in. high, bearing 1 or 2 pedicellate flowers. Calyx-lobes free, very narrow. Corolla small, the 2 larger lobes more united, with appendages to the throat but none to the labellum (*R. Brown*). Capsule long and linear.—*DC. Prod.* vii. 335.

Queensland. Endeavour river, *Banks and Solander*.

57. ***S. rotundifolium***, *R. Br. Prod.* 571. Glabrous, except a few glandular hairs on the inflorescence. Leaves radical, rosulate, obovate or orbicular, shortly petiolate, 2 to 3 lines long. Scapes filiform, 6 to 8 in. high, with a few, minute, scattered, narrow leaves, loosely corymbose at the top. Flowers small, shortly pedicellate or nearly sessile. Calyx-lobes united in 2 short, broad, entire lips. Corolla-lobes nearly equal, entire or emarginate, without appendages to the throat. Capsule linear, 5 to 8 lines long.—*DC. Prod.* vii. 335; *F. Muell. Fragm.* i. 151.

N. Australia. Plains at the foot of M'Adam Range, *F. Mueller*; Hunter's River, York Sound, *A. Cunningham*.

Queensland. Endeavour river, *Banks and Solander*; Shoalwater Bay, *R. Brown*.

The species is very near *S. uliginosum*, but the flowers are not so closely sessile, and the capsule much longer.

58. ***S. schizanthum***, *F. Muell. Fragm.* i. 152. A slender annual, with rosulate, radical leaves, closely resembling *S. rotundifolium* in foliage, inflorescence, and in the slender, linear capsules, but the calyx-lobes are linear and free, at least the 3 upper ones, and the corolla-lobes are larger and more deeply bifid, the 2 larger ones more divided, and united at the base into a kind of lower lip. Capsule above $\frac{1}{2}$ in. long.

N. Australia. Moist pastures on the Victoria river, *F. Mueller*. This species has the calyx and corolla nearly of *S. uliginosum* with the capsule of *S. rotundifolium*.

59. ***S. lobuliflorum***, *F. Muell. Fragm.* i. 153. A slender, erect annual, with the habit of *S. schizanthum*, but rather more rigid and minutely glandular-pubescent from the base of the scape. Leaves petiolate, rosulate, broadly obovate or orbicular, $\frac{1}{4}$ to $\frac{1}{2}$ in. long, glabrous, rather firmer than in *S. schizanthum*. Scapes about 6 in. high, branching in the upper part into a loose, almost corymbose panicle. Flowers nearly sessile in the forks or terminating the branches. Calyx-lobes linear, much shorter than the slender tube, the 2 upper ones more or less united, the others free. Corolla with the 2 larger lobes bifid. Capsule linear, $\frac{1}{2}$ in. long or rather more.

N. Australia. Moist sandy pastures on the Victoria river, near Sheep Head, *P. Mueller*. This seems to me to be a more glandular variety of *S. schizanthum*. I do not quite understand the differences described in the form of the corolla. As far as I can ascertain from the dried specimens, it seems to me to be the same in both.

60. ***S. uliginosum*, Swartz; DC. Prod. vii. 336.** A small, slender annual, glabrous or with a very few small, glandular hairs on the inflorescence. Leaves radical, ovate or orbicular, 2 to 3 lines long. Scape erect, 3 to 5 in. high, simple or slightly branched. Flowers sessile along the scape or its branches, each in the axil of a small bract. Calyx about 3 lines long, the lobes linear, free or shortly united in 2 lips, half as long as the tube. Corolla scarcely longer than the calyx-lobes, the upper lobes rather longer and bitid. Capsule linear, about 3 lines long.—Benth. Fl. Hongk. 193; *S. tenellum*, R. Br. Prod. 571, not of Swartz; *S. leucum*, Spreng. Syst. iii. 749; DC. Prod. vii. 335.

Queensland. Endeavour river, *Banks and Schander*; Shoalwater Bay, *R. Brown*. This species is also in Ceylon and South China, and a rather more robust variety in Sikkim, Chittagong, and the Malayan peninsula.

61. ***S. pulchellum*, Sond. in Pl. Preiss. i. 381.** Glabrous, except a minute and rare glandular pubescence on the inflorescence. Stock very small and slender, but slightly bulbous with the dilated, scarious, lanceolate bases of the petioles. Leaves few, radical, with an obovate, oval or oblong obtuse lamina of 2 or rarely 3 lines. Scape filiform, 2 to 4 in. high, leafless, bearing a loose, corymbose panicle of $\frac{1}{2}$ to 1 in., with small, narrow, obtuse bracts. Flowers pedicellate. Calyx 2 to $2\frac{1}{2}$ lines long, the lobes free, narrow, shorter than the ovary. Corolla-tube nearly as long as the calyx-lobes, without appendages to the throat or to the small, obtuse labellum. Capsule linear, about 2 lines long, but not seen quite ripe. *S. corymbosum*, Benth. in Hug. Enum. 72, not of R. Br.

W. Australia. King George's Sound, *Baxter*; Swan River, *Hargel, Drummond, 1st Coll. n. 520, 3rd Coll. n. 180*; Bull's Creek, *Preiss, n. 2242*; Tonne and Murray rivers, *Oldfield*. Very closely allied to *S. petiolare*, and perhaps a variety, but the flowers appear to be smaller and more regularly corymbose, and the capsule narrower.

62. ***S. petiolare*, Sond. in Pl. Preiss. i. 382.** Glabrous, except a very few small, glandular hairs on the inflorescence. Stock small and slender, but the dilated bases of the petioles form a little bulb, at first ovoid and pale brown, in the older plants much darker, and attaining 3 lines diameter. Leaves radical, the lamina from oblong-linear to ovate, obtuse, usually 2 to 3 lines long. Scape slender, 2 to 4 or rarely 5 in. high, leafless except the small bracts, branching in the upper part into an irregular corymb or rarely reduced to a single flower, the pedicels long and slender. Calyx $2\frac{1}{2}$ to nearly 3 lines long, the lobes much shorter than the tube, obtuse or acute. Corolla pink, larger than in the allied species, the tube as long as the calyx-lobes, the lobes entire or slightly emarginate, the throat with small appendages, the labellum without any. Capsule narrow-oblong, about 2 lines long.—*S. obtusatum*, Sond. l. c.

W. Australia. Swan River, *Drummond, 1st Coll. n. 522, 523, 524* (sometimes mixed with *S. emarginatum*), *Preiss, n. 2244*; Dandenong, *Oldfield*; Stirling Range, *P. Mueller*. Drummond's 2nd Coll. n. 281 is perhaps the same, but the specimens are im-

perfect. Sonder distinguishes his two species chiefly by the form of the calyx-lobes, which are certainly in some specimens broad and very obtuse, in others narrow and almost acute, but there are many intermediates. In both, the labellum is said in the diagnosis to be inapplicable, in the description to be appendiculate. I have not found any appendage to the labellum, but small, glandular ones to the throat.

63. **S. emarginatum**, *Sond. in Pl. Preiss.* i. 383. A small, slender plant, with the little, brown, bulbous stock and small, petiolate, radical leaves of *S. petiolare*, but readily known by a minute whorl of 3 or 4 leaves below the inflorescence. The scape, 2 to 3 in. high, bears usually only 1 or 2 flowers, and is more glandular than in *S. petiolare*, the calyx and corolla very nearly as in that species, of which this one may prove to be a variety only; the lobes of the corolla are, however, said to be more deeply emarginate.

W. Australia. Swan River, *Drummond*, n. 521, 521 (partly); Victoria Plains, *Oldfield*; towards the Great Bight, *Maxwell* (with almost orbicular leaves).

64. **S. corymbosum**, *R. Br. Prod.* 571. Glabrous, except a few glandular hairs on the inflorescence. Stock densely tufted. Leaves radical, linear, sometimes rather broad, rigid and incurved as in *S. piliferum*, rarely above $\frac{1}{2}$ in. long, terminating in a fine, almost hair-like point. Scape leafless, 3 to 6 in. high, bearing a dense, more or less compound corymb. Bracts small, rather thick, ovate or oblong as in *S. guttatum*, but not produced below their insertion, and sometimes narrow. Flowers sessile or nearly so. Calyx about 3 lines long, the lobes free, rather broad, very obtuse, scarcely half as long as the tube. Corolla-tube short, the throat without appendages, the labellum narrow, acuminate, ciliate and appendiculate. Capsule rather broadly linear, contracted at the top but not beaked, 4 to 5 lines long.—*DC. Prod.* vii. 335.

W. Australia. Lucky Bay, *R. Brown*: King George's Sound or to the eastward, *Barter*; margins of swamps inland from Cape Le Grand, *Maxwell*; also *Drummond*, 3rd Coll. n. 165 (or 195?), 172.

Var. ? *proliferum*. Stock more or less proliferous.—Rocks of Mount Perongrup, *F. Mueller*. The specimens are not quite in flower, but probably belong to this species.

65. **S. lepidum**, *F. Muell. Herb.* Glabrous, except the slightly glandular-pubescent or hirsute inflorescence. Stock tufted. Leaves radical, linear, narrow but flat, with a short, fine point, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Scape leafless, slender, almost filiform, 2 to 3 in. long, bearing a small cyme of 3 to 5 flowers, rarely reduced to a single flower. Bracts small, linear, mucronulate. Flowers sessile or nearly so, like those of *S. corymbosum*, but the calyx-lobes narrower. Capsule narrow-oblong, 3 or rarely 4 lines long.

W. Australia. *Drummond*, n. 114, 3rd Coll. n. 181; Tone and Blackwood rivers, *Oldfield*. This differs from *S. corymbosum* chiefly in the small narrow leaves, the narrow acute bracts, and the narrow calyx-lobes.

66. **S. streptocarpum**, *Sond. in Pl. Preiss.* i. 385. Quite glabrous. Stock densely tufted or rarely shortly proliferous, or at length $\frac{1}{2}$ to 1 in. long below the tuft of leaves. Leaves radical, narrow-linear, 1 to 2 in. long, usually mucronate. Scapes several, divaricately branched from below the middle, forming a broad, more or less corymbose panicle, 6 to 8 in. high, in the smaller specimens reduced to a small, few-flowered cyme. Bracts small,

oblong, obtuse. Flowers nearly sessile. Calyx nearly $\frac{1}{2}$ in. long, the lobes very short, broad and obtuse, cohering more or less in two lips. Corolla without appendages to the throat, the labellum very short, without any or with 2 short appendages. Capsule linear or linear-lanceolate, about $\frac{1}{2}$ in. long or more.

W. Australia. Swan River, *Preiss*, n. 2273 (in fruit), *Drummond*, n. 29 (a single specimen in flower). Sonder describes the calyx-lobes as acute, but probably by mistake, as in both the above specimens they are remarkably obtuse.

Var. *tenellum*. Smaller and more slender, but equally divaricate and dichotomous.—*S. divaricatum*, Sond. in Pl. *Preiss*. i. 385.—Vasse river, *Preiss*, n. 2274.

Var. ? *macrocarpum*. Panicle less divaricate and not so corymbose, the lower branches being sometimes shorter. Capsule sometimes $\frac{1}{2}$ in. long.—Swan River, *Collie*; Murchison river, *Oldfield*, also *Drummond*, n. 131, 2nd Coll. n. 271.

S. rigidulum, Sond. in Pl. *Preiss*. i. 389, which I have not seen, and of which the precise locality is not given, may be a small form of this species with the stem or stock 1 in. long below the leaves, and the flowers reduced to very few.

67. **S. uniflorum**, *Sond.* in Pl. *Preiss*. i. 381. Stock densely tufted or shortly proliferous. Leaves radical, very narrow-linear, 1 to 2 in. long, glabrous and smooth or with cartilaginous-serrulate margins. Scapes slender, 1-flowered, scarcely exceeding the leaves or rarely 3 or 4 in. high, ciliate-hirsute, leafless except a small bract under the flower. Calyx hairy, but scarcely glandular, about 4 lines long, the lobes free, short, and narrow. Corolla pale flesh-coloured, the tube very short; lobes unequal, with appendages to the labellum but scarcely any to the throat. Capsule linear-falcate, contracted towards the end, 5 to 6 lines long.

W. Australia. King George's Sound, *Drummond*; Hay district, *Preiss*, n. 2253; Tone and Blackwood rivers, *Oldfield*; Upper Kalgan river, *F. Mueller*.

68. **S. pedunculatum**, *R. Br. Prod.* 571. A perennial, sprinkled with a few hairs, forming a short, leafy stem of about $\frac{1}{2}$ in. below the terminal tuft. Lower leaves rosulate at the base of the stem but often soon disappearing, oblong-lanceolate or almost ovate, 1 to 3 lines long, narrowed into a short petiole, those of the stem few, scattered and linear, those of the terminal tuft numerous, narrow-linear, terminating in long, hair-like points. Scapes or peduncles amongst the terminal leaves numerous, filiform, 1-flowered, 1 to 2 in. long. Calyx-lobes very small, the 2 lower ones united at first, all at length free. Corolla very small, the lobes unequal, without appendages to the throat or labellum (*R. Brown*). Capsule glabrous, linear, 3 to 4 lines long.—DC. *Prod.* vii. 337; *S. bryoides*, *F. Muell. Fragm.* vi. 91.

N. Australia. Port Essington, *Armstrong*.

Queensland. Endeavour river, *Banks and Solander*, *A. Cunningham*; Rockingham Bay, *Dallachy*.

69. **S. pachyrhizum**, *F. Muell. Fragm.* i. 152. Glabrous. Stem or stock thick, erect, 1 to 2 in. high, branching at the top. Leaves few, scattered, more crowded under the scapes, petiolate, oblanceolate or spatulate, rather thick. Peduncles or scapes several, 3 to 6 in. long, branching near the base into a loose, spreading, corymbose panicle. Flowers sessile in the forks or terminating the branches. Calyx-lobes linear, free or the lower ones more or less united, much shorter than the slender tube. Corolla

small, the lobes nearly equal, the throat with small appendages, but none to the oblong labellum. Capsule linear, 4 to 6 lines long.

N. Australia. Pastures between Providence Hill and M'Adam Range, *F. Mueller*. The specimens not in good foliage.

70. ***S. muscicola***, *F. Muell. Fragm.* i. 153. Stems simple, erect, herbaceous but rather rigid, 1 to 4 in. high, with a few scattered leaves, and crowned by a spreading cluster of orbicular, membranous leaves on rather long petioles, the lamina $\frac{1}{2}$ to above 1 in. diameter, usually glabrous. Peduncles several from amongst the terminal leaves and exceeding them, but flowering from near the base. Flowers sessile, in the axils of minute bracts, forming interrupted, more or less glandular spikes. Calyx-tube very slender, lobes small, narrow, the 2 lower ones more or less united. Corolla very small, the 2 larger lobes emarginate, the throat without appendages. Capsule very narrow-linear, 8 to 10 lines long.

N. Australia. In tufts of moss near springs and cataracts on the Upper Victoria river, *F. Mueller*, also from King's voyage in herb. R. Brown. This species has nearly the inflorescence of *S. uliginosum*, with a very peculiar habit and foliage.

SERIES 12. THYRSIFORMES. Perennials, with a tufted or proliferous-branched stock or stem, with radical or terminal tufts of leaves. Flowers in an oblong or elongated thyrsoid panicle or raceme.

71. ***S. crassifolium***, *R. Br. Prod.* 571. Usually glabrous, except the glandular-pubescent inflorescence. Stock short, thick and hard. Leaves radical, dilated at the base, but not forming persistent bulbs, lanceolate or almost linear, 4 to 6 in. long, including the long petiole, rather thick and turning black in drying as in *S. pycnostachyum*. Scape 1 to 2 ft. long or even more, including the long raceme-like panicle. Bracts small, lanceolate. Peduncles very short, mostly 2- or 3-flowered. Calyx-lobes short, acute, free or shortly united in 2 lips. Corolla pink, without appendages or with very small ones to the labellum. Capsule linear or oblong-linear, 5 to 8 lines long.—*DC. Prod.* vii. 335; *Sond. in Pl. Preiss.* i. 384; *S. leptobotrys*, *DC. Prod.* vii. 783; *Sond. l. c.* 384?; *Dampiera?* *inundata*, *De Vr. in Pl. Preiss.* i. 404.

W. Australia. King George's Sound, *R. Brown*, *Baxter* and others, to Swan and Vasse rivers, *Collie*, *Drummond*, *Oldfield*, *Preiss.* n. 1523, and others, eastward to Phillips Flats, *Maxwell*.

72. ***S. pycnostachyum***, *Lindl. Swan Riv. App.* 29. Stock tufted, the persistent bases of the petioles forming a bulb. Leaves radical, from obovate-spathulate to oblanceolate, mostly 3 or 4 in. long, including the long petiole, more or less sprinkled with glandular hairs. Scape ascending, glandular-pubescent or villous, 6 in. to nearly 1 ft. high, the thyrsoid panicle occupying about one-half. Bracts lanceolate. Pedicels very short. Calyx-lobes linear, free. Corolla without any appendages or only very small ones to the labellum. Capsule linear, 9 to 10 lines long, slightly contracted at the top, but not seen quite ripe.—*S. thyrsiforme*, *DC. Prod.* vii. 783; *Sond. in Pl. Preiss.* i. 384.

W. Australia. Swan River, *Drummond*, 1st *Coll.* n. 531.

73. **S. pubigerum**, *Sond. in Pl. Preiss. i. 383*. Glabrous or nearly so, except the yellowish glandular-pubescent or villous inflorescence. Stock densely tufted or very shortly branched. Leaves radical, linear, flat, and often dilated upwards, rather rigid and curved inwards, $\frac{1}{2}$ to 1 in. long, ending in a long hair-like point. Scapes 3 to 6 in. high, including the oblong thyrsoid panicle of 1 to 3 in. Bracts, small, narrow, and acute. Flowers shortly pedicellate. Calyx about 4 lines long, the lobes obtuse, not half so long as the tube, more or less united in 2 lips. Corolla-lobes nearly equal, without any appendages to the throat or labellum. Capsule linear, 5 or 6 lines long, but not seen quite ripe.

W. Australia. Swan River, *Drummond, 1st Coll. n. 543, 546, also n. 25; Preiss, n. 2278*. With the exception of the linear ovary and capsule, the species much resembles *S. ciliatum*.

74. **S. canaliculatum**, *Lindl. Swan Riv. App. 29*. Glabrous, except a very few small glandular hairs sprinkled on the inflorescence. Stock densely tufted, not proliferous, the base of the petioles somewhat bulbous. Leaves narrow-linear, scarcely pointed, rather flaccid, 1 to 2 or rarely 3 in. long. Scape $\frac{1}{2}$ to nearly 1 ft. long, the panicle 1 to 3 in. long, loosely thyrsoid, most of the peduncles or branches 3-flowered. Bracts small, linear. Flowers all pedicellate. Calyx $2\frac{1}{2}$ lines long, the narrow acute lobes as long as the tube and free. Corolla with very small appendages to the throat, the labellum narrow, acuminate, without appendages. Capsule oblong-linear, about 3 lines long.—*S. thesioides*, DC. *Prod. vii. 783*; *Sond. in Pl. Preiss. i. 383*.

W. Australia. Swan River, *Drummond, 1st Coll. n. 538, also n. 28; Preiss, n. 2257, 2258*.

75. **S. leptophyllum**, *DC. Prod. vii. 783*. Stock densely tufted. Leaves narrow-linear, flaccid, $1\frac{1}{2}$ to 3 or even 4 in. long, shortly mucronate, glabrous or nearly so. Scapes 6 to 8 in. high, usually hirsute with spreading hairs from the base. Panicle thyrsoid or narrow and raceme-like, glandular-pubescent, the hairs often yellowish. Bracts narrow, small. Flowers very shortly pedicellate. Calyx about 3 lines long, the lobes free, narrow, obtuse, rather shorter than the tube. Corolla without appendages to the throat. Capsule linear, about 4 lines long.—*Sond. in Pl. Preiss. i. 384*.

W. Australia. Swan River, *Drummond, 1st Coll., Preiss, n. 2254*. Scarcely differs from *S. dichotomum*, except in the short not proliferous stock.

Var. mucronifolium. Leaves rather shorter, with a fine point.—Blackwood river, *Oldfield*; Sterling and Plantagenet ranges and Phillips river, *Maxwell*. *S. mucronifolium*, *Sond. in Pl. Preiss. i. 383*, from Plantagenet, *Preiss, n. 2256*, is, from the description, evidently this variety, but I have not seen the specimen.

76. **S. dichotomum**, *DC. Prod. vii. 783*. Very closely allied on the one hand to *S. leptophyllum*, on the other to *S. bulbiferum*, differing from the former chiefly in the proliferous-branched stock, often 2 to 3 in. long, from *S. bulbiferum* in the longer leaves and more numerous flowers. Leaves crowded at the base and ends of the branches and scattered between the tufts, attaining sometimes 1 in. or more, narrow-linear and acute. Scapes 2 to 4 in. high, glandular-pubescent. Panicle or compound raceme more or

less thyrsoïd and glandular-hairy like that of *S. leptophyllum*, the flowers rather numerous. Capsule linear, 3 to 4 lines long.—Sond. in Pl. Preiss. i. 387; *S. mucronifolium*, Hook. Bot. Mag. t. 4538 (copied in Lemaire, Jard. Fleur. t. 59, and in Fl. des Serres, vi. t. 606); *S. Hookeri*, Planch. in Fl. des Serres, vi. 229.

W. Australia. Swan River and adjoining districts, *Drummond*, 1st Coll. n. 534 (referred by Sonder to *S. leptophyllum*), 535, also n. 18, 19, 3rd Coll. n. 169; *Preiss*, n. 2284, 2285; Phillips Range, *Maxwell*.

77. ***S. bulbiferum***, Benth. in Hueg. Enum. 73. A small much-branched proliferous species, erect or rooting at the lower tufts, glabrous except the glandular-pubescent scapes and inflorescence. Leaves very narrow-linear, scarcely acute, from about $\frac{1}{4}$ to above $\frac{1}{2}$ in. long, densely tufted at the ends and bases of the branches, with a few smaller intermediate ones, the bases of the old tufts often bulb-like. Scapes or peduncles $\frac{1}{2}$ to about 2 in. long, with a loose almost corymbose raceme of 3 to 7 flowers, rarely reduced to a single one. Bracts short and very narrow. Calyx-lobes free, very obtuse, not $\frac{1}{3}$ the length of the tube. Corolla without appendages to the throat. Capsule narrow, slightly contracted upwards, but not beaked, under $\frac{1}{2}$ in. long in the normal form—DC. Prod. vii. 336; Sond. in Pl. Preiss. i. 388; *S. proliferum*, DC. Prod. vii. 783.

W. Australia. Swan River and adjoining districts, *Drummond*, 1st Coll., also n. 171; *Preiss*, n. 2281, 2283, *Oldfield*.

Var. *macrocarpum*. Capsule almost sessile, 8 to 9 lines long.—*S. recurvum*, Grah. in Bot. Mag. t. 3913.—Harvey river, *Oldfield*.

Var. *ciliatum*, Sond. Leaves ciliate-hirsute. Peduncles all or nearly all 1-flowered.—Swan River, *Drummond*, 1st Coll. n. 541.

78. ***S. breviscapum***, Br. Prod. 572. A small, much-branched, proliferous species, the stock or stem and foliage glabrous. Leaves very narrow-linear, scarcely acute, about $\frac{1}{2}$ in. long, densely tufted at the base and ends of the branches, with a few scattered ones between the tufts. Panicles ovoid and very compact, on very short scapes or peduncles clothed with spreading white hairs. Flowers in nearly sessile clusters, intermixed with small leaf-like bracts. Calyx-lobes very short, obtuse, with scarious margins. Corolla-lobes narrow, the throat without appendages, the labellum very small. Capsule linear-lanceolate, glandular-pubescent, 3 to 4 lines long, slightly contracted at the top, but not beaked.—DC. Prod. vii. 337; *S. eriopodum*, DC. Prod. vii. 784; Sond. in Pl. Preiss. i. 388.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 547, also n. 21; Darling Range, *Collie*; Gordon river, *Oldfield*; near Maddington, *Preiss*, n. 2282; King George's Sound, *A. Cunningham*; Lucky Bay, *R. Brown* (specimens in fruit and very near the following variety); base of Stirling Range, *F. Mueller*.

Var. *erythrocalyx*. Inflorescence not so dense. Peduncles or scapes less hairy. Calyx very red.—*S. involucreatum*, F. Muell. Fragm. i. 154.—Fitzgerald Ranges and Cape Arid, *Maxwell*.

79. ***S. eglandulosum***, F. Muell. Fragm. i. 150. Stems rather slender, more or less proliferous-branched, from a few inches to a foot long or more, glabrous, except a dense cottony wool about the old leaf-tufts, scarcely per-

ceptible on the young ones. Leaves narrow-linear, acute or mucronate, usually glabrous, crowded in dense tufts at the base and ends of the branches, with scattered intermediate ones. Racemes from 2 to 4 in. or rarely 5 or 6 in. long, including the very short peduncle, pubescent, but scarcely or not at all glandular, simple or nearly so, the pedicels all short, the lower ones rarely 2- or 3-flowered. Calyx-lobes free, narrow, not half so long as the tube. Corolla small, white with purple spots, the throat without appendages. Capsule oblong-linear, about 3 lines long.

Queensland. Arid hills between the Suttor, Belyando, Mackenzie, and Burnett rivers, *F. Mueller*; Alice river, *Mitchell*; Dogwood Creek, *Leichhardt*.

N. S. Wales. Darling Downs, *Woolfs*; N.W. interior, probably on the Bogan, *Mitchell*, 1st Expedition (1831). These specimens were determined as a new species by Lindley and distributed as *S. laricifolium*, Lindl. (not of Rich.), but never described (the *S. laricifolium* attributed to Lindley, in Walp. Rep. ii. 704, being a misprint for *S. caricifolium*); without the basal woolly tufts the specimens are not unlike those of *S. laricifolium*, Rich., but readily distinguished by the short pedicels, narrow capsules, and almost total want of glandular hairs.

SECT. III. RHYNCHANGIUM. Capsule lanceolate or linear, contracted into a slender beak. Perennials. Leaves linear, scattered along the proliferous-branched stock or stem, the upper ones usually crowded into terminal tufts.

80. ***S. fasciculatum***, *R. Br. Prod.* 572. Glabrous or the inflorescence glandular-pubescent. Leafy stems usually elongated, sometimes attaining 1 ft., simple or slightly proliferous-branched. Leaves scattered along the stems, the upper ones collected in a terminal whorl-like tuft, linear, acute or almost obtuse, narrowed below the middle, the longer ones from 1 to 2 in. Spike-like panicles or compound racemes varying from almost sessile and 2 or 3 in. long to pedunculate and 10 in. long, the flowers more or less clustered along the rhachis on very short peduncles or almost sessile. Bracts small, lanceolate or linear. Calyx-tube long and linear, the lobes small and free. Capsule membranous, lanceolate or linear-lanceolate, straight or slightly falcate, but both valves perfect and nearly equal, ending in a slender beak, $\frac{1}{2}$ to nearly $\frac{3}{4}$ in. long, including the beak.—*DC. Prod.* vii. 337.

W. Australia. King George's Sound, *R. Brown*, also *Drummond*, n. 128, and 2nd Coll. n. 270, the typical form with short proliferous stems and short inflorescence.—*S. cicatricosum*, Sond. in Pl. Preiss. i. 390, is probably the typical *S. fasciculatum*. It cannot be *S. adnatum*, var. *propinquum*, for the capsule is described as "subæquivalvis."

Var. *elongatum*. Stems elongated; racemes 6 to 10 in. long.—Flinders Bay, *Collie*, also *Drummond*, n. 127 and 2nd Coll. n. 269 (in some sets).

The species differs from *S. adnatum* only in the capsule.

81. ***S. falcatum***, *R. Br. Prod.* 572. Very near *S. fasciculatum*, with the same linear leaves and elongated or proliferous stem, leafy below the terminal tuft; but the stem as well as the rhachis of the inflorescence is pubescent. Raceme 4 to 6 in. long, shortly pedunculate or nearly sessile, simple or nearly so, the pedicels very short, and all 1-flowered or very rarely 2-flowered. Capsule lanceolate, falcate, curving downwards, the upper cell and valve much narrower than the lower one and semi-abortive, the beak short but slender.—*DC. Prod.* vii. 337.

W. Australia. King George's Sound, *R. Brown, Oldfield.*

S. Lessoni, DC. Prod. vii. 337, from the incomplete diagnoses given, and *Sond.* in Pl. Paris. i. 388, from the more detailed character, seems to be this species, as suggested by *Sonder.*

82. ***S. rhynchocarpum***, *Sond.* in Pl. Preiss. i. 389. This may be a variety of *S. falcatum* corresponding to the abbreviated form of *S. fasciculatum* and *S. adnatum*, but I have seen no intermediates. Leafy stems rarely above 6 in. long, proliferous-branched, with the linear leaves of the allied species. Spike compound but reduced to a sessile cluster, concealed in the terminal tuft of leaves from which the summits of the flowers alone protrude. Capsule falcate as in *S. falcatum*, with the upper cell narrow and the lower one broad, but the slender beak is much longer than in that species.

W. Australia. *Drummond*, 1st Coll. n. 542, also n. 128.

83. ***S. adnatum***, *R. Br. Prod.* 572. Glabrous, except the more or less glandular inflorescence. Leafy stems simple or proliferous-branched as in *S. fasciculatum*, varying from 2 or 3 in. to nearly 1 ft. long. Leaves scattered along the stem, the upper ones crowded in a terminal whorl-like tuft, linear but sometimes all very narrow, in other specimens all rather broad, and from $\frac{1}{2}$ to $1\frac{1}{2}$ in. long. Spike-like panicles or compound racemes dense, usually rather short and nearly sessile, but sometimes as long as in the long variety of *S. fasciculatum*. Flowers, as in that species, in nearly sessile clusters along the rachis. The sole difference is in the capsule, which is linear or linear, and beaked as in that species, but usually narrower and more falcate (curving upwards), and the upper cell is entirely abortive, the valve being reduced to a filiform rib on the upper side of the lower perfect cell. The length varies from about $\frac{1}{2}$ in., including the rather long beak, to nearly 1 in., including the short beak.—DC. Prod. vii. 337; *S. fasciculatum*, Lindl. in Bot. Reg. t. 1459; Arn. in Bot. Mag. t. 3816, not of *R. Br.*

W. Australia. Goose Island Bay, *R. Brown*; King George's Sound and adjoining districts, *Oldfield* and others, *Drummond*, n. 139; Salt Lake, Middle Island, *Marsell*. These all belong to the commoner form with narrow leaves, the inflorescence from 3 to near 10 in. long.

Var. *abbreviatum*. Leaves narrow or broad. Inflorescence rarely above 2 in. long and very dense.—*S. propinquum*, *R. Br. Prod.* 572; DC. Prod. vii. 337 (with narrow leaves); *S. adnatum*, var. *Br.* in Bot. Mag. t. 2508, Bot. Reg. t. 914 (with broader leaves). King George's Sound, *R. Brown* and others.

2. LEVENHOOKIA, *R. Br.*

(*Coleostylis*, *Sond.*)

Calyx-lobes 5. Corolla irregular, 4 lobes nearly equal, more or less contracted at the base into claws, the 5th or labellum usually shorter, with a very concave or hood-shaped lamina, enveloping the top of the column or clastically thrown back. Column short and erect, adnate at the base to one side of the calyx-tube. Stigma 2-lobed or undivided. Ovary 1-celled, with a basal placenta more or less connected with the sides by a short, incomplete dissepiment. Capsule globular, crowned by the calyx-lobes. Seeds few.—Small, erect, simple or corymbosely-branched annuals. Leaves small, alternate, not rosulate. Flowers crowded in short racemes at the ends of the

stem or branches, each one pedicellate in the axil of a small, leaf-like bract. Capsule glandular-hispid in all the species.

The genus is limited to the southern colonies and chiefly West Australia. Although very near *Stylidium*, with the foliage and habit of some of the series *Teaella*, it is curiously distinguished by the irritability residing in the hood-shaped labellum, whilst the column is erect and immovable, whereas in *Stylidium* the irritability is in the long, folded column. De Candolle altered the name into *Lecuewenhookia*, in conformity with the Dutch orthography of the name of the natural philosopher Leeuwenhoek, to whom it is dedicated; but, in transferring that name into Latin, or rather in making a Latin word out of it, the modified spelling used by Brown for euphony's sake is in strict conformity with the practice of Linnaeus and his immediate followers in similar cases, and gives a pronunciation much easier, and, at the same time, nearer to the true one, than if the original Dutch letters were preserved in languages where they have not the same value.

Labellum short, nearly sessile at the throat of the corolla or on a short, broad claw. Style without any (or rarely with a small) appendage under the anthers.

Corolla-tube much shorter than the calyx-lobes, and the lobes not as long again.

Glabrous except the calyx-tube. Flowers in a dense, leafy corymb.

Style-lobes 2, linear 1. *L. pusilla*.

Glandular-pubescent. Inflorescence simple or nearly so.

Labellum scarcely coloured. Style entire 2. *L. dubia*.

Labellum dark purple. Style 2-lobed 3. *L. Sonderi*.

Corolla-tube as long as or longer than the calyx-lobes.

Corolla-tube not much exceeding the calyx-lobes; lobes 3 lines

long. Style 2-lobed 4. *L. pauciflora*.

Corolla-tube slender, twice or thrice as long as the calyx-lobes.

Style entire 5. *L. leptantha*.

Labellum on a long claw and nearly as long as the other petals. Column with a linear appendage under the anthers.—COLEOSTYLES, *Sond.*

Corolla-tube very short 6. *L. stipitata*.

Corolla-tube from a little shorter to rather longer than the calyx-lobes 7. *L. Preissii*.

1. ***L. pusilla***, *R. Br. Prod.* 573. Glabrous except the calyx-tube and capsule, 1 to 2 in. or rarely 3 in. high, densely corymbose in the upper part. Leaves obovate or oblong-spathulate, obtuse, rather thick, rarely above 3 lines long including the petiole, the leafy bracts similar or narrower, exceeding the flowers in some specimens, rather shorter in others. Pedicels short. Calyx rarely 1 line long, the lobes rather unequal, but variable in breadth and proportion. Corolla-tube very short, 4 lobes having each a short, linear claw and obovate white lamina scarcely above $\frac{1}{2}$ line diameter, the 5th or labellum purple, nearly as long as the other lobes, but the claw broad and concave, shorter than the hood-shaped lamina. Style with 2 linear lobes protruding from the anthers. *Bauer, Illustr. t. 15; DC. Prod. vii. 338; Sond. in Pl. Preiss. i. 392.*

W. Australia. King George's Sound and adjoining districts, *R. Brown, Baxter*, and many others, and thence to Swan River, *Drummond, 1st Coll., Preiss. n. 2241, 2247*; eastward to Cape Arid, *Maxwell*.

2. ***L. dubia***, *Sond. in Pl. Preiss. i. 392.* Glandular-pubescent or hirsute, 1 to 2 or rarely 3 in. high, simple or branched but not so corymbose as *L. pusilla*. Leaves obovate-oblong or ovate, 2 to 3 lines long including the

petiole, the leafy bracts similar or rather narrower. Pedicels short or scarcely exceeding the leaves. Calyx a little more than 1 line long. Corolla-tube shorter than the calyx-lobes (longer, *Sonder*); lobes obovate, contracted at the base but scarcely clawed, about 1 line long, equal (or 2 shorter, *Sonder*), apparently white, with a yellow, somewhat glandular throat; labellum on a short claw, the small, hood-shaped, pale or slightly-coloured lamina much shorter than the lobes. Column slender. Stigma obovate, entire (2-lobed, *F. Mueller*).—*L. creberrima*, *F. Muell. Fragm. iii. 121.*

Victoria. Very common in pastures, both in the plains and in the mountains, from the western limits of Gipps' Land, *F. Mueller*.

S. Australia. Very common round St. Vincent's Gulf, *F. Mueller*.

W. Australia. Swan River, *Drummond, 1st Coll. n. 516, Preiss, n. 2252*; Stirling Range, *F. Mueller*. I can discover no difference whatever between the W. Australian and the Victorian specimens, nor have I been able to trace the 2 lobes of the style described by *F. Mueller* in the latter. There may be, however, in this respect some slight sexual difference.

3. **L. Sonderi**, *F. Muell. Fragm. i. 18.* Glandular-pubescent, 1 to 2 in. high, simple in all the specimens seen. Leaves petiolate, orbicular, 1 to $1\frac{1}{2}$ lines diameter, the leafy bracts rather smaller and narrower. Calyx about 1 line long. Corolla-tube shorter than the calyx-lobes, and the lobes but little exceeding them, obovate and nearly equal. Labellum with a very short claw, the hood-shaped lamina of a deep purple and nearly as long as the lobes. Style distinctly 2-lobed.—*Coleostyles Sonderi*, *F. Muell. in Trans. Phil. Soc. Vict. i. 46.*

Victoria. Violet Creek, *Wilhelmi*. Scarcely differs from *L. dubia* in the larger deep-coloured labellum.

4. **L. pauciflora**, *Benth. in Hueg. Faun. 74.* Glandular-pubescent, especially in the upper part, 2 to 3 in. high, simple in all the specimens seen. Leaves very few and small, petiolate, ovate or orbicular, the leafy bracts oblong-spathulate and still smaller. Flowers few, on rather long pedicels, in a very short, terminal raceme. Calyx nearly 2 lines long. Corolla-tube exceeding the calyx-lobes; lobes white, streaked with red, obovate-oblong or spathulate, 2 of them 3 lines long, the 2 others rather shorter; labellum on a short claw, the lamina much shorter than the other lobes, broadly hood-shaped, of a deep purple, with long, entire, uncoloured appendages at the base and a fringed appendage in the terminal notch. Style shortly 2-lobed or quite entire, the column usually with a membranous dilatation immediately under the anthers.—*DC. Prod. vii. 338*; *L. stylidioides*, *F. Muell. Fragm. vi. 77.*

W. Australia. King George's Sound to Stirling Range, *Huegel, Collie, Oldfield, F. Mueller*.

5. **L. leptantha**, *Benth.* Very slender, 1 to 3 in. high, usually simple and hirsute with a few small scattered hairs. Lower leaves obovate, upper ones lanceolate, 1 to 2 lines long, narrowed into a short petiole. Flowers very few, in a short, simple raceme or cluster. Calyx scarcely above $\frac{1}{2}$ line long. Corolla-tube slender, nearly 2 lines long, the lobes obovate, about $1\frac{1}{2}$ lines long, narrowed into a short claw; labellum very short, the purple hood-shaped lamina deeply notched. Column very short. Stigma entire, not exceeding the anthers.

W. Australia. *Drummond*, n. 128, 175, 282; Champion Bay and Murchison river, *Oldfield*; also a few specimens mixed in *Preiss's* n. 2249 from Sussex district.

6. **L. stipitata**, *F. Muell. Fragm.* iv. 94. Glandular-pubescent or hirsute, 2 to 4 in. high, usually branched. Leaves linear or the lower ones obovate, the upper floral ones or bracts very narrow. Flowers small, numerous, on long and slender pedicels, the uppermost almost umbellate. Calyx scarcely 1 line long, the narrow lobes longer than the tube. Corolla-tube scarcely any; lobes obovate, nearly 2 lines long, narrowed into claws; labellum nearly as long, on a slender claw, the lamina broadly hood-shaped, with broad auricles or appendages at the base of the limb, and an appendage in the deep, terminal notch, sometimes short and purple like the limb, sometimes long and narrow. Column elongated but straight, with a reflexed, linear-lanceolate appendage immediately under the anthers. Stigma entire, very short, and rounded. *Stylidina stipitata*, Benth. in Hugg. Enum. 72; DC. Prod. vii. 335; *Coleostylis umbellulata*, Sond. in Pl. Preiss. i. 391.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 514, *Preiss*, n. 2240 (partly); Mount Barker, *Oldfield*; Champion Bay, *Walcott*. I cannot find, either in this or in *S. Preissii*, the adnate sheath at the base of the column described by Sonder, and from which he took the proposed generic name *Coleostylis*. In Huggel's 'Enumeratio' I had myself misdescribed the petals; there are 4, not 2, with obovate lamina, and only 1, the labellum, with a slender claw and cordate (concave) lamina.

7. **L. Preissii**, *F. Muell. Fragm.* iv. 94. Pubescent or hirsute with short, glandular hairs, sometimes simple and 2 to 3 in. high, more frequently corymbosely-branched and 3 to 5 or even 6 in. high. Leaves from oblong-spathulate to linear, rarely exceeding $\frac{1}{2}$ in., and usually much shorter. Flowers pedicellate, in short, terminal racemes. Calyx a little more than 1 line long, with narrow lobes. Corolla-tube from nearly as long as to rather longer than the calyx-tube; lobes obovate, about 2 lines long including the claw; labellum as long as the lobes, with a similar claw, but the lamina broadly hood-shaped, with an oblong-spathulate appendage in the deep, terminal notch, and a yellow appendage on each side at the base of the lamina. Column slender, rather longer than the claws of the petals, but not folded, with a linear appendage immediately under the anthers. Stigma entire, very short, and rounded.—*Coleostylis Preissii*, Sond. in Pl. Preiss. i. 391.

W. Australia. Swan River and adjoining districts, *Drummond*, 1st Coll. n. 515, *Preiss*, n. 2249, 2250 (a few specimens of *L. leptantha* mixed under n. 2249).

3. FORSTERA, Linn. f.

Calyx-lobes 5, nearly equal, 2 sometimes more united. Corolla nearly regular, funnel-shaped or almost campanulate, the 5 lobes nearly equal or 2 rather larger. Column free from the calyx tube. Ovary imperfectly 2-celled at the base. Stigma 2-lobed. Capsule 1-celled. Small perennials. Leaves entire, crowded on the tufted stock or short stems, or imbricated along the densely tufted branches. Scapes or peduncles terminal, bearing 1 or rarely 2 or 3 flowers, which are often more or less unisexual.

The genus contains, besides the Australian species which is endemic, a few others from New Zealand and Antarctic America. With the peculiar genital column of *Stylidiæ*, it has the flowers otherwise nearer those of *Campanulaceæ*.

1. **F. bellidifolia**, *Hook. f. Ic. Pl. t. 851 and Fl. Tas. v. i. 236*. Quite glabrous. Stock densely tufted. Leaves all radical, rosulate-obovate or oblong-spathulate, very obtuse, rather thick, rarely above $\frac{1}{2}$ in. long. Scapes slender, 3 to 5 in. long, usually with 2 or 3 small, linear bracts under the flower. Calyx about 2 lines long, the linear-oblong lobes about as long as the globular tube. Corolla-tube about 1 line long, the lobes rather longer, obovate, 2 rather larger than the others, the throat often with small, glandular appendages. Stigma-lobes broad, shortly exceeding the anthers, which were not quite perfect in the flower examined, probably a partially female one. Capsule broadly ovoid, about 3 lines long.

Tasmania. Mount Sorell and summit of the ranges above Birch's Inlet, Macquarie Harbour, *Milligan, Gunn*; Mount Lapeyrouse, *C. Stuart*. The species comes nearest to the New Zealand *F. tenella*, *Hook. f.*

ORDER LXIV. GOODENOVIÆ.

Calyx-tube adnate to the ovary or rarely free, the limb of 5 persistent lobes, sometimes very small, or united in a ring, or quite obsolete. Corolla irregular or rarely regular, with 5 lobes, valvate in the bud, their margins usually induplicate and expanding into glabrous *wings* as the flower opens. Stamens 5, alternate with the lobes of the corolla and inserted at the junction of the corolla-tube with the ovary or very rarely shortly adnate to the corolla-tube; anthers 2-celled, the cells parallel, opening longitudinally, free or united in a ring round the style. Ovary wholly or partially inferior, at least as to the corolla, or rarely free within the corolla-tube. 1- or 2-celled; ovules 1, 2 or more in each cell, erect or ascending (except in *Calosperma*). Style simple and undivided (except in *Calogyne*), with a cup-shaped or 2-lipped dilatation, called *indusium*, at the top, enclosing the stigma. Fruit an indehiscent nut or drupe, or a capsule opening in 2 or 4 valves or rarely bursting irregularly or almost indehiscent. Seeds with a thin or crustaceous or thick and hard testa; embryo straight in the centre of a somewhat fleshy albumen, which is rarely deficient; radicle next the hilum.—Herbs undershrubs or rarely shrubs, the juice not milky. Leaves alternate or radical, very rarely irregularly opposite, entire, toothed or rarely pinnatifid. Flowers hermaphrodite, axillary or in terminal spikes, racemes or panicles, the primary inflorescence centripetal, the secondary usually cymose and dichotomous. Bracteoles on the 1-flowered peduncles (when present) and bracts at the forks of the dichotomous cymes, opposite. Corolla yellow blue or white, rarely red or purple.

The Order is almost exclusively Australian, a very few species only of one genus (*Scaevola*) being known from New Zealand, the Pacific islands, and the coasts of tropical and subtropical Africa, Asia, and America, and one of another genus (*Calogyne*), perhaps not different from an Australian one, extending to the coast of China. It is, no doubt, allied to *Campanulaceæ*, but, besides the differences in the ovules, fruit, and seeds, and the want of the milky juice of that Order, *Goodeniaceæ* are readily known by the remarkable *indusium*, which evidently, together with the peculiar surrounding hairs of the style or of the corolla, acts a considerable part in assisting the proper impregnation of the stigma. The contrivances by which this impregnation is impeded, retarded, or promoted, appear to be very different in different genera, as, for instance, in *Goodenia*, *Leschenaultia*, and *Dampiera*, and are well worthy of careful observation on the part of botanists resident in Australia,

where the flowers can be observed subject to the natural operation of insects, as well as of climatological and other external influences.

In the systematic arrangement and description of the genera and species, it is with regret that I have been unable to avail myself more largely of the elaborate monograph of De Vriese ('Goodenovieæ,' 4to, Haarlem, 1854), but the extraordinary confusion in both genera and species, as well of characters as of synonyms and identifications displayed in that work, and in the Hookerian and other herbaria that were placed at the author's disposal and which he has named, show that he could scarcely have formed any definite idea of his own genera or species, and that in working he must have generally contented himself with outer aspect, very rarely resorting to analysis. I feel therefore compelled to reject as doubtful those few of his species of which I have seen no tolerably authentic specimen.

Ovules 2 or more in each cell of the ovary or on each side of the imperfect or rudimentary dissepiment.

Anthers connate round the style. Capsule linear, 4-valved at least at the base. Leaves narrow-linear or heath-like or reduced to scales.

Indusium 2-lipped. Seeds hard, in 2 or 4 rows. Flowers solitary or in leafy corymbs

1. LESCHENAULTIA.

Indusium cup-shaped. Seeds small and numerous. Flowers small in terminal clusters

2. ANTHOTIUM.

Anthers free (when the flower is expanded). Capsule globular ovoid or oblong, opening from the top in 2 or 4 valves. Indusium cup-shaped.

Calyx entirely free

3. VELLEIA.

Calyx-tube adnate (sometimes exceedingly short), lobes free or adnate at the base.

Style undivided

4. GOODENIA.

Style 2- or 3-cleft

5. CALOGYNE.

Anthers free. Fruit more or less succulent and indehiscent.

Ovules several, erect or ascending

6. SELLIERA.

Ovules 2 in each cell, *pendulous*

7. CATOSPERMA.

Ovules 1 or 2 in the whole ovary.

Capsule 2-valved

Goodenia barbata.

Drupe or nut indehiscent.

Calyx-tube adnate.

Corolla-tube slit, lobes spreading, not auriculate. Ovules 2 (except in *S. fasciculata*). Anthers free

8. SCÆVOLA.

Corolla-tube entire, lobes horizontally spreading. Ovules 2.

Anthers free

9. DIASPASIS.

Corolla-tube slit, upper lobes connivent, not auriculate. Ovule 1.

Anthers free

10. VERREAUXIA.

Corolla-tube slit, upper lobes auriculate. Ovule 1 (except the sect. *Dicelia*). Anthers connate

11. DAMPIERA.

Calyx and corolla-tubes almost closed over the ovary but free.

Corolla-tube entire, lobes horizontally spreading. Ovule 1 .

12. BRUNONIA.

1. LESCHENAULTIA, R. Br.

(Latouria, *De Vr.*)

Calyx-tube linear, wholly adnate, lobes linear or lanceolate. Corolla oblique, the tube slit open to the base or rarely closed, the lobes all or partially erect and connivent or spreading. Anthers cohering round the style or rarely free. Ovary inferior, completely 2-celled, with several, sometimes numerous ovules ascending in 2 rows in each cell. Indusium broadly 2-lipped, the upper lip shorter, glandular inside and with a half-ring of short hairs on the outside at the base, the lower lip smooth or hairy inside; stigma



Leoch.

leuco.

obsolete (or aduate to the upper lip?). Capsule linear, either entirely 4-valved, or seedless contracted and entire at the top and sometimes between the seeds. Seeds usually truncate, and more or less angular; testa thick and hard, sometimes almost bony; embryo from half as long to nearly as long as the albumen.—Herbs undershrubs or shrubs. Leaves narrow-linear, entire, scattered or crowded and heath-like. Flowers either solitary and terminal or leaf-opposed or several in compact, leafy terminal corymbs, blue white yellow red or greenish.

The genus is limited to Australia, and is readily known as well by the habit as by the indusium, ovary, and fruit.

SECT. I. **Euleschenaultia.** Capsule seed-bearing and 4-valved to the top. Flowers solitary, on short leafy branchlets or in compact leafy corymbs.

Corolla (red yellow or greenish?), the 2 upper lobes connivent, the 3 lower broad and very spreading.

Corolla-lobes not longer than the cylindrical tube. Branchlets straight. Leaves rather crowded, heath-like.

Upper corolla-lobes rather broad and erect 1. *L. formosa.*

Upper corolla-lobes acuminate and recurved 2. *L. chlorantha.*

Corolla-lobes very broad, longer than the short broad tube, branchlets usually curved or twisted. Leaves often $\frac{1}{2}$ in. long 3. *L. linarioides.*

Corolla (red yellow or greenish?), the tube long and cylindrical, the lobes short, connivent or slightly spreading.

Leaves crowded or imbricate, almost acerose, 2 to 4 lines long.

Corolla 6 to 8 lines long, the wings of the lobes united with the terminal mucro on the back 4. *L. tubiflora.*

Leaves crowded, $\frac{1}{2}$ to 1 in. long. Corolla nearly 1 in., the wings of the lobes spreading the terminal mucro between them 5. *L. superba.*

Leaves crowded, 2 to 4 lines long. Corolla nearly $\frac{3}{4}$ in., the lobes acuminate, recurved, not at all or scarcely winged 6. *L. acutiloba.*

Corolla (red yellow or greenish?), the tube long and cylindrical, the lobes all very spreading and winged.

Heath-like shrub. Leaves fine, under $\frac{1}{2}$ in. long. Flowers numerous but scarcely corymbose 7. *L. larinina.*

Undershrubs (or shrubs?), the stems (or branches?) corymbose at the top. Leaves scattered, often above 1 in. long.

Very hispid. Flowers glandular-pubescent 8. *L. hirsuta.*

Quite glabrous 9. *L. longiloba.*

Corolla (blue), the lobes all spreading, with broad, transversely-veined wings 10. *L. biloba.*

Corolla (blue lilac pale or white), lobes spreading, almost unilabiate, the wings of the upper or of all the lobes, narrow and veinless or nearly so.

Corolla-lobes all with narrow wings. Flowers in densely leafy corymbs.

Calyx-tube shorter than the floral leaves. Corolla 4 to 5 lines long 11. *L. expansa.*

Calyx-tube longer than the floral leaves. Corolla 6 to 8 lines long 12. *L. floribunda.*

Upper corolla-lobes lanceolate, arcuate, acute, not winged, lower ones with transversely veined wings 13. *L. heteromera.*

SECT. II. **Latouria.** Capsule ending in a slender seedless indehiscent beak. Leaves or scales distant; flowers solitary and terminal or leaf opposed.

Leaves all reduced to small scales. Branches rigid, intricate, divaricate 14. *L. divaricata.*

Leaves and stems filiform. Capsule pedicellate 15. *L. filiformis*.
 Leaves linear, acute, slightly flattened. Stems filiform. Capsule
 sessile 16. *L. agrostophylla*.

SECT. I. EULESCHENAUTLIA. Capsule seed-bearing and 4-valved to the top. Flowers solitary on short leafy branchlets or in compact leafy corymbs.

1. **L. formosa**, *R. Br. Prod.* 581. A weak, diffuse or spreading and much-branched shrub, attaining sometimes 2 ft. Leaves rather loosely scattered, obtuse or scarcely acute, 2 to 4 lines long. Flowers red, solitary, terminating short leafy branchlets or becoming lateral by the growing out of the upper axillary bud. Calyx-tube longer than the surrounding leaves; lobes linear or linear-lanceolate. Corolla-tube 3 to 5 lines long, split to the base; lower lobes large and spreading, but not longer than the tube; upper ones broad rounded, erect and connivent, shorter than the lower ones. Capsule $\frac{1}{2}$ to 1. in. long.—*DC. Prod.* vii. 519; *De Vr. in Pl. Preiss.* i. 414; *Sweet, Fl. Austral.* t. 26; *Bot. Reg.* t. 916; *Bot. Mag.* t. 2600; *L. oblata*, *Sweet, Fl. Austral.* t. 46; *L. multiflora*, *Lodd. Bot. Cab.* t. 1579; *DC. Prod.* vii. 519; *L. Baxteri*, *G. Don in Loud. Hort. Brit.* 79.

W. Australia. King George's Sound and adjoining districts, *R. Brown, Dromann*, n. 178, *Preiss, n.* 1457, 1458, *F. Mueller* and others; eastward to Stokes Inlet and Cape Arid, *Maxwell*.

Sweet distinguishes *L. oblata* by the larger wings of the corolla-lobes and by the pubescent filaments and corolla, but I find the wings sometimes quite as broad with perfectly glabrous filaments, and the hairs, when present on the filaments and back of the corolla, are but very few and small. *F. Mueller* sends some specimens which he considers as distinct from *L. formosa* in having an erect stem; I can find no other differences.

2. **L. chlorantha**, *F. Muell. Fragm.* ii. 20. A low, diffuse, much-branched shrub, with the habit of *L. formosa*, but the leaves are finer, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Inflorescence and flowers the same, except that the two upper connivent lobes of the corolla are acuminate and more or less recurved, and the colour, according to Oldfield's label, is pale green, which does not show on the specimen.

W. Australia. Murchison river, *Oldfield*.

Some specimens from the Kalgan river, *Oldfield, in Herb. Hook.*, have the fine leaves and acuminate upper corolla-lobes of *L. chlorantha*, but the flowers are marked on Oldfield's label as turquoise blue, the corresponding specimens in *Herb. F. Mueller* are marked as having the flowers red. Perhaps the whole are a variety only of *L. formosa*. In the dried state the flowers look red in all.

3. **L. linarioides**, *DC. Prod.* vii. 519. A prostrate or divaricately branched shrub, attaining sometimes several feet, the branches often much incurved at the end. Leaves not crowded, slender, acute, sometimes exceeding $\frac{1}{2}$ in. Flowers rather large, terminating short branchlets and sessile within the upper leaves, often several together in a terminal leafy corymb, the flowering branchlets or even the calyx-tube itself often much incurved or twisted. Calyx-lobes lanceolate. Corolla-tube short, broad, and gibbous, the lower lobes often $\frac{3}{4}$ in. long, with very broad wings of a greenish-yellow, the upper lobes reddish, oval-oblong, erect and connivent, much shorter than the lower ones. Capsule curved, 1 to $1\frac{1}{2}$ in. long.—*L. arcuata*, *De Vr. in Pl. Preiss.* i. 416, *Gooden.* 186; *Bot. Mag.* t. 4265, copied into *Fl. des*



Serres, iii. t. 219; Paxt. Mag. xiv. 245, with a fig.; *Scavola grandiflora*, Benth. in Hueg. Enum. 70; DC. Prod. vii. 512.

W. Australia. Swan River, *Fraser, Drummond*, 1st Coll. n. 186, also n. 117?; *Preiss*, n. 1465; Murchison river, *Oldfield*; Champion Bay, *Walcott*; Dirk Hartog's Island, *Milne*.

4. **L. tubiflora**, *R. Br. Prod.* 581. A bushy shrub, sometimes low, diffuse, and densely branched, sometimes more erect, 3 to 4 ft. high, with divaricate or shortly virgate branches. Leaves crowded or densely imbricate, 2 to 4 lines long, rigid and almost acerose, with pellucid points. Flowers from a greenish- to an orange-yellow or perhaps red, solitary on the short branchlets, sessile within the terminal leaves, which are longer than the ovary. Calyx-lobes like the leaves. Corolla 6 to 8 lines long, the tube cylindrical, at first closed, but splitting more or less on the upper side, the lobes all shorter than the tube, connivent or scarcely spreading, the wings short and united at the end, with the terminal mucro at the back. Capsule narrow as in the other species, but not longer than the surrounding leaves. - DC. Prod. vii. 519; De Vr. Gooden. 183, but only as to Brown's plant; *L. pinastroides*, *Lehm. Pl. Preiss.* ii. 244; De Vr. Gooden. 133. t. 36.

W. Australia. King George's Sound and adjoining districts, *R. Brown, Drummond*, n. 163, 404, *Preiss*, n. 430, and others; eastward to Stokes Inlet and Fitzgerald Ranges, *Maxwell*.

Preiss's specimens, n. 1458, referred here by De Vriese, belong to *L. formosa*; *Drummond*'s n. 65, also quoted by him under *L. tubiflora*, is a species of *Eremophila* or some allied genus.

5. **L. superba**, *F. Muell. Fragm.* vi. 10. A bushy shrub of 2 ft. with virgate branches. Leaves crowded, $\frac{1}{2}$ to 1 in. long. Flowers large, yellow (*Marw.*), sessile in a cluster of small leaves, and often 2 or 3 together at the ends of the branchlets. Calyx-lobes linear-subulate. Corolla nearly 1 in. long, the tube cylindrical, slit on the upper side, the lobes short, nearly equal, scarcely spreading, with rather broad, distinct wings, mucronate-acuminate between them. Capsule $\frac{3}{4}$ to 1 in. long.

W. Australia, *Drummond*, n. 354; Phillips river and E. Mount Barren, *Maxwell*.

6. **L. acutiloba**, *Benth.* An erect or diffuse shrub. Leaves rather crowded, and sometimes imbricate, obtuse or with short points, 2 to 3 lines long. Flowers (red? or yellow?) solitary and terminal, sessile within the last leaves, but the ovary usually exceeding them. Calyx-lobes acute, sometimes slightly lanceolate. Corolla-tube about $\frac{1}{2}$ in. long, cylindrical, slit to the base; lobes short, erect or slightly spreading, acutely acuminate, not winged.

W. Australia. Young river, *Maxwell*.

7. **L. laricina**, *Lindl. Swan Riv. App.* 27. A much branched, erect, bushy shrub. Leaves rather crowded, usually fine, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Flowers varying from white or lilac to the richest red (*Drummond*), sessile in the upper axils, often numerous, the calyx-tube not exceeding the floral leaves. Calyx-lobes like the leaves, but shorter than the corolla-tube. Corolla-tube fully $\frac{1}{2}$ in. long, slit to the base, the lobes all similar, sometimes nearly as

long as the tube, but usually shorter, the wings rather broad, with a small point between them.—De Vr. Gooden. 185.; *L. splendens*, Hook. Bot. Mag. t. 4256, copied into Fl. des Serres, ii. t. 176; Paxt. Mag. xiv. 245, with a figure.

W. Australia. Swan River, *Drummond*, 1st Coll.; Darling Range, *Collie*.

L. parviflora, De Vr. in Pl. Preiss. i. 416, and *L. tenuifolia*, De Vr. l.c. 415, are both referred by the author (Gooden. 185) to *L. latriclada*, but the characters he gives are those of *L. expansa*. I have not seen the specimens.

8 ***L. hirsuta***, *F. Muell. Fragm.* vi. 9. Apparently an undershrub, hispid with rigid hairs. Stems decumbent or erect, sometimes exceeding 1 ft., slightly branched towards the top. Leaves linear, acute, often above 1 in. long. Flowers large (red?), sessile in the upper axils. Calyx-lobes linear-subulate, acute. Corolla about $1\frac{1}{4}$ in. long, glandular-pubescent outside; tube narrow; lobes rather shorter than the tube, all winged, and probably spreading. Style long. Capsule very long, but not seen ripe.

W. Australia. Between Moore and Murchison rivers, *Drummond*, 6th Coll. n. 115. The habit is nearly that of *L. longiloba*, but the hairs are quite exceptional in the whole genus.

9. ***L. longiloba***, *F. Muell. Fragm.* vi. 10. Apparently an undershrub, with several decumbent or ascending stems under 1 ft. high, corymbosely branched towards the end only. Leaves not crowded, linear, mucronate-acute, mostly above $\frac{1}{2}$ in. long, sometimes rather broad and almost lanceolate, the upper, especially the floral ones, irregularly opposite. Flowers (red?) sessile in the upper axils. Calyx-lobes usually long and acute. Corolla nearly 1 in. long, the tube narrow, less woolly inside than in most species, the lobes all spreading and winged, mucronate-acuminate, as long as the tube. Capsule long, but not seen ripe.

W. Australia, *Drummond*, the typical specimens without n., but n. 179 of the 4th Coll. appears to be the same.

10. ***L. biloba***, *Lindl. Swan Riv. App.* 27; *Bot. Rey.* 1841, t. 2. A weak shrub of 2 or 3 ft. Leaves rather slender, not very crowded, $\frac{1}{4}$ to nearly $\frac{1}{2}$ in. long. Flowers blue, sessile in the upper axils, few together in each branchlet, but sometimes forming a broad, leafy corymb. Calyx-lobes like the leaves. Corolla varying from 8 lines to nearly 1 in. long, the lobes longer than the tube, all spreading, more or less mucronate, with broad, spreading, dark blue wings, marked with parallel, transverse veins like those of *Seacola striata*. Capsule $\frac{3}{4}$ to $1\frac{1}{2}$ in. long.—Paxt. Mag. viii. 151; De Vr. Gooden. 182. t. 35; *L. grandiflora*, DC. Prod. vii. 519; De Vr. Gooden. 181; *L. Drummondii*, De Vr. l.c. 182.

W. Australia. King George's Sound to Swan River, *Drummond*, 1st Coll. n. 3, 2nd Coll. n. 415, *Preiss*, n. 1463, 1466, *Harvey*, *Oldfield*, and others.

L. grandiflora, *Lindl. Swan Riv. App.* 26, is a large-flowered form of the same species.

11. ***L. expansa***, *R. Br. Prod.* 581. A weak branching or diffuse shrub of 1 to 2 ft. Leaves mostly obtuse, under $\frac{1}{2}$ in. long. Flowers small, pale blue, yellowish or white, sessile in small, compact, leafy corymbs at the ends of the branches. Calyx-tube shorter than the surrounding leaves, the

lobes usually as long as or longer than the corolla-tube. Corolla 4 to 5 lines long, the lobes longer than the tube, all digitately spreading and winged, the wings undulate, not broad, irregularly and very sparingly veined. Capsule about $\frac{1}{2}$ in. long.—DC. Prod. vii. 519.

W. Australia. King George's Sound, *R. Brown, Baxter*, and others; Swan River, *Drummond, 1st Coll.*; Flinders Bay, *Cottie*; Mount Barker, *Tone river, Wilson's Inlet, Oldfield*. The flowers are usually described as 2-bracteolate, but they are so in appearance only, the flower being between 2 nearly opposite leaves similar to the subtending one, but in the axil of one of them is another flower-bud, which, as it is developed, causes the branchlet to grow out, and the leaves become alternate.

12. **L. floribunda**, *Benth. in Hueg. Enum.* 70. A shrub of 2 or 3 ft., with spreading or rarely virgate branches. Leaves rather crowded but not imbricate, finely pointed or almost obtuse, 2 to 4 lines long. Flowers white, pale blue, lilac or yellowish, in terminal, leafy corymbs, but not so dense as in *L. expansa*, the flowers themselves larger, and the calyx-tube at the time of flowering always longer than the surrounding leaves. Corolla 6 to 8 lines long, the lobes nearly equal, all digitately spreading and longer than the tube, the wings not at all or very obscurely veined, the point of the lobe in the notch between them.—DC. Prod. vii. 519; De Vr. Gooden. 186; *L. glauca*, *Lindl. Swan Riv. App.* 27; De Vr. Gooden. 184; *L. pallescens*, De Vr. in *Pl. Preiss.* i. 415; *L. expansa*, De Vr. Gooden. 184, partly, not of R. Br.

W. Australia. Swan River, *Huegel, Drummond, 1st Coll., Preiss, n.* 1460, 1464, 1468; Murchison river, *Oldfield*.

13. **L. heteromera**, *Benth.* A shrub, with rather rigid branches. Leaves mucronate-acute, thicker and more rigid than in most species, usually under $\frac{1}{2}$ in. long, not imbricate. Flowers apparently blue, few in the upper axils, forming a short, loose, leafy spike, the calyx-tube longer than the surrounding leaves. Calyx-lobes very acute. Corolla (pale blue?) 6 to 8 lines long, the 3 lower lobes with broad, blue, transversely-veined wings as in *L. biloba*, but the 2 upper ones shorter, linear-lanceolate, acute, with narrow, involute margins but not winged. Capsule about $\frac{3}{4}$ in. long.

W. Australia, *Drummond, n.* 142, *Mylnæ*; E. Mount Barren, *Moir's Inlet, Oldfield* and *Phillips rivers, Maxwell*.

SECT. II. LATOURIA, *Endl.*—Capsule ending in a slender, seedless, indehiscent beak. Leaves or scales of the stem distant. Flowers solitary, terminal or leaf-opposed.

14. **L. divaricata**, *F. Muell. Fragm.* iii. 33, 167. Summits of the plant leafless, rigid, flexuose, intricately branched, the leaves replaced by small, oblong-linear, distant scales. Flowers sessile, terminal or opposite the scales. Calyx-tube 2 to 3 lines long, the lobes narrow, about half as long. Corolla yellow (*F. Muell.*), 6 to 8 lines long, the lobes about as long as the tube, all narrow and expanded, the 3 lower ones winged, the 2 upper ones lanceolate-falcate, not winged. Fruit often above 1 in. long, ripening but very few large, thick seeds, and contracted into a neck at the top, and also between the seeds.

S. Australia. Cooper's Creek, *Wheeler*.

15. **L. filiformis**, *R. Br. Prod.* 581. An annual or perennial, with filiform, slightly branched stems of $\frac{1}{2}$ to 1 ft. Leaves distant, filiform, $\frac{1}{2}$ to 1 in. long. Flowers blue (*R. Br.*), terminal or leaf-opposed, very shortly pedicellate. Calyx-tube long and slender, the lobes short and subulate. Corolla $\frac{1}{2}$ in. long or rather more, the 3 lower lobes as long as the tube, with broadly oblong, erect, almost parallel wings, leaving a deep sinus between them, the margins of the lobes very undulate below the wings, the 2 upper lobes separated much lower down, and winged on one side only. Capsule slender, about 1 in. long when perfect, the upper half consisting of a slender, filiform beak. Seeds cylindrical or angular, truncate, the testa not quite so hard as in other species.—*DC. Prod.* vii. 519; *F. Muell. Fragm.* vi. 9; *Latouria filiformis*, *De Vr. Gooden.* 187.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*.

Queensland. Shoalwater Bay passage, *R. Brown*; Rockingham Bay, *Dallachy*.

16. **L. agrostophylla**, *F. Muell. Fragm.* vi. 8. An erect annual, very closely allied to *L. filiformis*, and probably only a variety, the leaves are rather broader and flatter, the capsule not so slender, and usually sessile.

N. Australia. Sandstone tableland of the Upper Victoria river and Macanthur river, Gulf of Carpentaria, *F. Mueller*. Without fuller sets of specimens, I have been unwilling to unite this with *L. filiformis*; but Brown's Carpentaria island specimens appear to me to be intermediate between *F. Mueller's* and those from Queensland.

2. **ANTHOTIUM**, *R. Br.*

Calyx-tube adnate; lobes 5, free. Corolla with the 2 upper lobes free to the base, erect, connivent, each of them winged on one side, with a broad, concave, inflexed auricle covering the indusium, the 3 lower lobes united to the middle. Anthers cohering round the style. Indusium cup-shaped, not ciliate, enclosing the stigma. Ovary entirely inferior, 2-celled; ovules numerous, in 2 rows in each cell, mostly ascending. Capsule opening laterally, in 4 valves (cohering at the top?). Seeds small, slightly compressed; testa crustaceous.—Glabrous perennials, with a tufted stock. Leaves radical, entire. Flowering stems leafless or nearly so, simple or branched. Flowers (probably varying from a yellow to a purplish-red) in terminal clusters or dense corymbs, rarely almost solitary.

The genus is limited to Australia. It approaches *Dampiera* in the flower, with the ovary of *Leschenaultia*, and a peculiar habit.

Radical leaves narrow-linear. Calyx-tube contracted to the base.

Upper lip of the corolla exceeding the calyx-lobes 1. *A. humile*.

Radical leaves linear-cuneate, oblong or lanceolate. Calyx-tube rounded at the base. Upper lip of the corolla shorter than the calyx-lobes . 2. *A. rubriflorum*.

1. **A. humile**, *R. Br. Prod.* 582. Radical leaves linear-terete or very narrow and thick but flat, $1\frac{1}{2}$ to 4 in. long, the petioles shortly dilated at the base. Stems sometimes scarcely exceeding the leaves, erect and simple, sometimes $\frac{1}{2}$ to 1 ft. long, ascending, erect (or procumbent?), and more or less branched, leafless except short, linear bracts under the branches. Flowers small, in a terminal, compact corymb or head when the stem is simple, or in smaller clusters at the ends of the branches, sessile within very



Schonfeld del & lith.

Maier auct.

De Gruchy & Leigh imp.

Leschenaultia agrostophylla MM



F. ch. veld. del. & lith.

F. Mull. ex du Roi.

De Grisey & Vignier imp.

Leschenaultia filiformis R.Br. *Vol. 1, p. 114*

short bracts. Calyx-tube linear-turbinate, 2 to 3 lines long; lobes lanceolate or linear, usually shorter than the tube. Upper lobes of the corolla exceeding the calyx-lobes, broad and concave at the base, slightly contracted under the auricle, lower lip about 3 lines long, the lobes oblong, with narrow wings, and somewhat concave at the end. Capsule 3 to 4 lines long, but not seen quite ripe. Seeds very small, the testa very minutely glandular-tuberculate or nearly smooth. — DC. Prod. vii. 520; De Vr. Gooden. 188. t. 37; *Leschenaultia humilis*, Spreng. Syst. i. 720; *Goodenia junceiformis*, De Vr. in Pl. Preiss. i. 413; *G. geniculata*, De Vr. l. c. (altered afterwards l. c. ii. 244 to *G. geniflexa*); and *G. pygmaea*, De Vr. in Pl. Preiss. i. 413.

W. Australia, *Drummond*, n. 416, 181, 183; King George's Sound and Lucky Bay, *R. Brown*, *Baxter*; Flinders and Stirling Ranges, *Maxwell*; sandy plains inundated in winter, Swan River, *Preiss*, n. 1456, 1522.

De Vriese refers here also (Gooden. 188 and in H. rb. Hook.) Drummond's n. 191, which is *Scavola tortuosa*, and n. 140, which I have not seen.

2. **A. rubriflorum**, *F. Muell. Herb.* Radical leaves oblong-spathulate, lanceolate or linear-lanceolate, $1\frac{1}{2}$ to 2 in. long, the petiole dilated and membranous at the base. Stems erect and simple or nearly so in the specimens seen, 3 to 6 in. high, leafless or with 1 or 2 erect, short, linear leaves. Flowers red (*F. Muell.*), in a compact, terminal corymb, sessile, and surrounded by bracts as in *A. humile*, but the calyx-tube is rather shorter and broader, rounded at the base and prominently ribbed, the upper connivent lobes of the corolla are not contracted under the auricle, but broader and rounded at the top, not exceeding the calyx-lobes, and the lower lip is nearly twice as long. Ovules of *A. humile* or even more numerous. Fruit not seen.

W. Australia, *Drummond*, n. 180, *Maxwell*.

3. **VELLEIA**, Sm.

(Euthales, *R. Br.*)

Calyx free from the ovary, consisting of 3 or 5 sepals, either distinct or connate in a campanulate tube at the base. Corolla oblique, the tube adnate to the ovary at the base, with a hollow protuberance sometimes produced into a spur, the upper part split on the upper side nearly or quite to the ovary, the 2 upper lobes separate lower down, unequally winged and auriculate, or rarely all equal and equally winged. Stamens free. Ovary adnate to the corolla at the base, the summit free within the corolla-tube, nearly 1-celled, divided only at the very base or rarely to the middle into 2 imperfect cells. Style simple; indusium usually large, closed and almost folded when the flower expands. Capsule quite free from the calyx-lobes, equally 4-valved, or rarely 2-valved with entire or 2-cleft valves. Seeds of *Goodenia*, flat, with a callous or winged margin. — Herbs, with a short, thick stock and radical leaves, or in one species forming a thick, branching, leafy stem. Scapes (or peduncles in *V. macrophylla*) erect or ascending, dichotomously- or trichotomously-branched, many-flowered. Bracts opposite, free or connate. Flowers yellow, like those of *Goodenia*.

The species are all Australian. The genus is very nearly allied to *Goodenia*, but differs constantly in the free calyx and peculiar dichotomous inflorescence.

Bracts large, broad, connate.

- Sepals 5, lanceolate, nearly distinct 1. *V. panduriformis*.
 Sepals 5, ovate, connate at the base 2. *V. connata*.
 Sepals 3, orbicular-cordate 3. *V. perfoliata*.

Bracts distinct or very shortly united at the base.

Sepals 5, united in a campanulate, 5-lobed cup.

- Stoek tufted. Leaves all radical 4. *V. trinervis*.
 Stem erect, leafy 5. *V. macrophylla*.

Sepals 5, distinct or nearly so.

- Flowers rather large. Sepals obtuse, 4 to 6 lines long. Corolla frequently spurred. Capsule not exceeding the calyx 6. *V. paradoxa*.

- Flowers small. Sepals acute, about 2 lines long. Corolla not spurred. Capsule exceeding the calyx 7. *V. cynopotamica*.

Sepals 3, distinct or nearly so.

Upper lobes of the corolla deeply separate. Scares longer than the leaves.

- Glabrous. Sepals broadly cordate, almost orbicular 8. *V. lyrata*.
 Glabrous. Sepals ovate-lanceolate, obliquely cordate and shortly decurrent 9. *V. macrocalyx*.
 Villous. Sepals broadly ovate, not cordate 10. *V. pubescens*.
 Glabrous. Sepals oblong-lanceolate 11. *V. spathulata*.
 Corolla-lobes all nearly equal. Scares shorter than the leaves 12. *V. montana*.

1. ***V. panduriformis***, *A. Cunn. Herb.* Glabrous and glaucous. Radical leaves petiolate, obovate, toothed. Scares or stems very tall, less forked than in other species, with several pairs of large, broad, connate bracts, entire or scarcely toothed, each one 1 to 2 in. diameter. Flowers in dense cymes in one axil of each of the upper pairs of bracts (only one fork of the primary inflorescence elongated) or the terminal cyme regularly dichotomous. Sepals 5, lanceolate, nearly equal, about $\frac{1}{2}$ in. long, free or slightly connate at the base. Corolla not seen. Capsule about as long as the calyx. Seeds about 4 lines diameter, including the broad transparent wing.

N. Australia. Goodenough Bay and Point Cunningham, N.W. coast, *A. Cunningham*. The specimens seen of this and the two following species are very incomplete; the radical leaves of *V. panduriformis* are described from the drawing of a plant formerly raised in Kew Gardens from Cunningham's seeds.

2. ***V. connata***, *F. Muell. in Hook. Kew Journ.* viii. 162, and in *Trans. Phil. Soc. Vict.* i. 18. Glabrous and glaucous. Radical leaves petiolate, obovate-oblong and toothed (*Herb. Hook.*) or oblong-spathulate and entire (*Herb. F. Muell.*), 2 to 3 in. long. Stem tall, dichotomous, with large broad connate entire or toothed bracts at the forks. Sepals 5, ovate or ovate-lanceolate, acuminate, the outer one fully 4 lines long, the others smaller, usually connate at the base. Corolla 7 to 8 lines long, the lower lobes not winged (or the wings destroyed in the specimens seen?), the upper ones winged on one side and slightly ciliate. Capsule about 3 lines diameter. Seeds about 1 line diameter, including the wing.

N. S. Wales. Scrubby sandhills towards the junction of the Murray and Murrumbidgee, *F. Mueller*.

S. Australia. Between the Bonney river and Mount Morphett, *M'Douall Stuart*, a single specimen in *Herb. F. Muell.*, with the calyx-lobes much more connate than in the typical specimens.

3. ***V. perfoliata***, *R. Br. Prod.* 581. Glabrous, except a little short

wool in the axils of the leaves and bracts. Radical leaves petiolate, obovate or oblong, toothed or entire. Scapes or stems tall, glaucous, dichotomous, with large broad connate entire or toothed bracts at the forks. Flowers shortly pedicellate in the forks, the upper ones in a compact corymb. Sepals 3, orbicular-cordate, about 3 lines long, the 2 inner ones scarcely smaller than the outer one. Corolla yellow, about $\frac{1}{2}$ in. long, glabrous outside, the lower lobes winged, the 2 upper ones winged on the outer side only, with a concave densely hairy auricle below the wing. Style densely hairy. Capsule shorter than the calyx. Seeds very flat and broad, with a thickish margin not winged.—DC. Prod. vii. 518.

N. S. Wales. Blue Mountains, *Gordon* (Herb. R. Br.), *Miss Atkinson*. In the dried specimens the wings of the corolla-lobes sometimes disappear.

4. **V. trinervis**, *Labill. Pl. Nov. Holl.* i. 54. t. 77. Glabrous or rarely sprinkled with appressed hairs or in one variety villous. Radical leaves on long petioles, broadly or narrow oblong, entire or remotely toothed, sometimes distinctly 3-nerved, but the veins usually very obscure. Scapes dichotomous, sometimes as in *V. paradoxa*, above 1 ft. high, with erect branches, sometimes low and ascending as in *V. pubescens*, the bracts under the forks lanceolate or linear, free or slightly connate at the base. Flowers small. Sepals united in a campanulate calyx, about $2\frac{1}{2}$ to 3 lines long, with a turbinate tube and 5 unequal lobes, the larger outer one usually longer than the tube. Corolla 5 to 6 lines long, slightly pubescent outside, the lobes all broadly winged, the 2 upper ones rather unequally so and separated nearly to the base. Dissepiment of the capsule more prominent than in most species, attaining nearly to the middle. Seeds flat, not winged.—*Goodenia tenella*, Andr. Bot. Rep. t. 466; Bot. Mag. t. 1137, not of R. Br.; *Euthales trinervis*, R. Br. Prod. 580; DC. Prod. vii. 517; De Vr. Gooden. 169.

W. Australia. King George's Sound, *R. Brown*, *Preiss.* n. 1515, and many others, and thence to Swan River, *Drummond*, 1st Coll., 2nd Coll. n. 400, 401; Blackwood and Tweed rivers and Port Gregory, *Oldfield*; eastward to Cape Arid and Cape le Grand, *Maxwell*.

The genus *Euthales* was separated by Brown from *Velleia* solely on account of the gamosepalous calyx, but that occurs also, though in a less degree, in *V. connata*; F. Mueller proposes to join it rather with *Goodenia*; but besides the inflorescence and capsule, which are entirely those of *Velleia*, the calyx is always free, whilst in *Goodenia* the calyx-tube is entirely adnate, and where that is very short the lobes are also adnate at the base, and persist on the capsule.

Var. villosa, more or less villous, the leaves often very densely so on the under side, but sometimes sprinkled only with a few hairs. Scapes numerous, ascending, rarely above 6 in. high.—*Drummond*, 4th Coll. n. 188; King George's Sound, *Cutler*; Vasse river, *Oldfield*; Stirling Ranges, Don river, and Cape Arid, *Maxwell*.

Euthales pilosella, De Vr. in Pl. Preiss. i. 414, from King George's Sound, *Preiss.* n. 1438, which I have not seen, would appear, from the character given, to be this variety, although the author (*Gooden.* 174) refers it to *V. spathulata*, an Eastern species to which the description does not at all apply.

5. **V. macrophylla**, *Benth.* Closely allied to the larger forms of *V. trinervis*, but the stock grows out into an erect leafy branching stem, and, including the large loose dichotomous panicles, attains 3 or 4 ft. The whole plant glabrous. Stem-leaves in the ordinary form 2 to 6 in. long, toothed

and narrowed into a rather long petiole. Peduncles axillary, paniculate, with opposite bracts at the forks, precisely like the paniculate scapes of *V. trinervis*, but the flowers and capsules usually larger.—*Euthales macrophylla*, Lindl. Bot. Reg. 1840, Misc. 54, and 1841, t. 3; De Vr. Gooden. 170. t. 33; Maund. Botanist, t. 209; *Goodenia macrophylla*, F. Muell. Fragm. vi. 11.

W. Australia. Drummond, n. 111, 3rd Coll. n. 189; Kalgan river, Oldfield. The station, "Sydney, Clowes," given by De Vriese, is owing to a mistake in Herb. Hook.

Var. *foliosa*. Stems thick. Leaves crowded, obovate or broadly cuneate, coarsely toothed, scarcely petiolate, but contracted into a short, broad, stem-clasping base, the axils woolly.—Drummond, n. 182; summit of Stirling Range, F. Mueller.

Euthales filiformis, De Vr. in Pl. Preiss. i. 414 and Gooden. 171, from W. Australia, Preiss, n. 1889, described from imperfect specimens without flower, and which I have not seen, is not recognizable, and may belong to some very different genus.

6. **V. paradoxa**, R. Br. Prod. 580. Glabrous, pubescent or hirsute. Leaves radical, petiolate, from broadly obovate and under 2 in. to narrow-oblong and above 4 in. long, coarsely toothed or almost entire, sometimes almost lyrate. Scapes ascending or erect, $\frac{1}{2}$ to $1\frac{1}{2}$ ft. high, dichotomously or trichotomously branched. Bracts opposite at the forks, free, the lower ones sometimes ovate and deeply lobed at the base, the upper ones small, linear, and entire. Sepals 5, free, oblong-linear or lanceolate or the outer larger one ovate-lanceolate and sometimes 6 lines long, the others smaller. Corolla yellow, pubescent outside, the hollow protuberance of the tube usually produced into a spur, sometimes 4 lines long, sometimes very small or obsolete; lobes all winged, the 2 upper ones separate much lower than the others. Indusium very large. Capsule shorter than the outer sepals. Seeds broadly winged.—DC. Prod. vii. 518; De Vr. Gooden. 172; Hook. f. Fl. Tasm. i. 233; Bot. Reg. t. 971.

Queensland. Dawson river, F. Mueller; Port Curtis, M'Gillivray; Plains of the Condamine, Leichhardt; Ipswich, Nernst; Warwick, Beckler.

N. S. Wales. Cow-pasture plains, R. Brown; Mudgee, Woolls; Nangas, M'Arthur; from the Murray and Darling to the Barrier Range, Victoria and other Expeditions, and northward to Richmond river, Fawcett, New England, C. Stuart.

Victoria. Port Phillip, R. Brown; on the Yarra, F. Mueller; Glenelg river, Robertson; Creswick, Whan; Wimmera, Dallachy.

Tasmania. Port Dalrymple, R. Brown; not uncommon in many parts of the island, J. D. Hooker.

S. Australia. Gulf of St. Vincent's, Holdfast Bay, Lofty Ranges, etc., F. Mueller and others.

V. arguta, R. Br. Prod. 560, DC. Prod. vii. 518; De Vr. Gooden. 173, from Spencer's Gulf, R. Brown, is a small form, with the leaves rather more sharply toothed than usual, but not otherwise different. The western stations given for the species by De Vriese are founded upon a mixture of specimens of *V. trinervis* and of *Goodenia filiformis*, which had been glued down upon the same sheet in the Hookerian Herbarium.

Var. *stenoptera*, F. Muell. More divaricate; flowers rather smaller; spur very small or none; seeds with a very narrow or scarcely any wing. To this belong the Queensland and the New England and Richmond river specimens. The spur of the corolla disappears also sometimes on the common Southern form, and is always variable in size.

7. **V. cynopotamica**, F. Muell. Fragm. vi. 7. Sprinkled with a few rigid hairs or nearly glabrous. Radical leaves petiolate, oblanceolate, acutely



F. Schönfeld del & lith

F. Mueller direct

H. G. De Gruchy & Co imp

Velleia cynopotamioa F. M. Vol. 48

toothed, 1 to 2 in. long. Scapes slender, ascending, 6 to 8 in. high, dichotomous, with small opposite lanceolate free bracts at the forks. Flowers small, yellow. Sepals 5, lanceolate, acute, about 2 lines long and nearly equal or the outer one broader, usually hispid. Corolla not seen perfect but apparently like those of other not spurred species. Capsule exceeding the calyx, somewhat compressed, with the 2 valves not splitting so readily into 4 as in other species. Seeds orbicular, winged.

W. Australia. *Drummond* (2nd Coll. ?), n. 402, 410. The Hookerian and other specimens seen by De Vriese were referred by him to *V. lanceolata*, Lindl. (*Goodenia filiformis*), or to *V. lyrata*, which is entirely eastern.

8. **V. lyrata**, *R. Br. Prod.* 580. Glabrous except a few hairs on the stock. Leaves radical, oblong-spathulate, deeply toothed below the middle or lyrate-pinnatifid, often several in. long. Scapes erect or ascending, 6 in. to nearly 1 ft. high, dichotomous, with spreading branches, and small opposite ovate-lanceolate or linear free bracts at the forks. Sepals 3, broadly cordate, the outer ones 3 to 4 lines long and broad, the 2 others rather smaller. Corolla yellow, about $\frac{1}{2}$ in. long, glabrous outside, the lobes broadly winged, the 2 upper ones separated low down, unequally winged, with a concave inflexed auricle near the base. Capsule rather shorter than the calyx. Seeds orbicular, flat, with a rather thick margin, not winged.—*DC. Prod.* vii. 518; *De Vr. Gooden.* 173; *Bot. Reg.* t. 551; *Hook. Exot. Fl.* t. 24; *Guillem. Ic. Pl. Austral.* t. 4; *V. spathulata*, *Juss. in Ann. Mus. Par.* xviii. 17. t. 1, not of *R. Br.*

N. S. Wales. Marshy places about Port Jackson, *R. Brown, Sieber*, n. 223, and many others. The western specimens referred by De Vriese to *V. lyrata*, belong to *V. cynopotamica* and *V. trinervis*.

9. **V. macrocalyx**, *De Vr. Gooden.* 176. t. 34. Glabrous except a little wool at the base of the leaves and the inflorescence sometimes slightly pubescent. Rootstock often thick and elongated. Leaves radical, petiolate, obovate-oblong or spathulate, often several in. long, obtuse, entire sinuate-toothed or rarely almost lyrate. Scapes sometimes short and few-flowered, but when full grown $\frac{1}{2}$ to 1 ft. high, dichotomous, with spreading branches and small narrow opposite bracts at the forks as in *V. lyrata*. Sepals 3, ovate-lanceolate or almost ovate, mucronate-acute, obliquely cordate at the base, with the margins slightly decurrent, the outer one often 5 lines long, the others smaller. Corolla about 6 lines long, the 2 upper lobes separated lower down than the others and winged on one side only. Capsule of *V. lyrata*. Seeds not seen.

Queensland. Burdekin river, *F. Mueller*.

N. S. Wales. Upper Clarence river, *Herb. F. Mueller*.

10. **V. pubescens**, *R. Br. Prod.* 581. Softly pubescent or villous. Leaves radical, petiolate, oblong-spathulate and 2 to 4 in. long or shorter and almost obovate, irregularly toothed or lobed towards the base. Scapes ascending, shortly exceeding the leaves, dichotomous, with small opposite lanceolate bracts at the forks. Sepals 3, broadly ovate or the inner ones ovate-lanceolate, sometimes shortly united at the base, not decurrent. Corolla pubescent outside, 6 or 7 lines long, the lobes all broadly winged, but the

wings in some specimens soon disappearing, the 2 upper lobes separated almost to the base and auriculate on the outer side below the wing.—DC. Prod. vii. 518.

Queensland. Shoalwater Bay, *R. Brown*; Burdekin river, *Dallachy* (a dwarf stunted state).

11. *V. spathulata*, R. Br. Prod. 580. Glabrous except the woolly axils. Leaves radical, mostly oblong-spathulate and 2 to 3 in. long, but sometimes shorter and obovate or longer and narrow, entire or with minute distant teeth. Scapes slender, ascending or spreading, rarely above 6 in. long, sometimes very much branched and almost filiform, the bracts at the forks small, oblong or linear. Flowers small, yellow. Sepals 3, scarcely 3 lines long, oblong-lanceolate or the outer one almost ovate and slightly cordate. Corolla 4 to 5 lines long, the 2 upper lobes separated low down and winged on one side only. Seeds flat, with a thickish border, not winged or rarely with a very narrow wing.—DC. Prod. vii. 518; De Vr. Gooden. 174.

Queensland. Shoalwater and Keppel Bays, *R. Brown*; Port Arthur, *M'Gillivray*; Wide Bay, *Bidwell*; Rockingham Bay, *Dallachy*; Rockhampton, *Thozet*; Brisbane river, Moreton Bay, *Leichhardt, F. Mueller*.

N. S. Wales. Newcastle, *R. Brown*.

The Western *Euthales pilosella*, De Vr. in Pl. Preiss. i. 414, referred here by De Vr. Gooden. 174, must surely be *V. trinervis*, var. *villosa*.

12. *V. montana*, Hook. f. in Hook. Lond. Journ. vi. 265; Fl. Tasm. . 234. t. 68, B. More or less densely hirsute or nearly glabrous. Leaves radical, petiolate, mostly oblong-spathulate but varying from obovate to oblanceolate, obtuse, entire, rather thick, 1 to 2 in. long. Scapes very short, dichotomous, the whole inflorescence not exceeding the leaves; bracts opposite at the forks, small and narrow. Sepals 3, lanceolate or oblong, about 3 lines long, but unequal. Corolla of a dingy reddish-yellow (*Gunn*), 4 to 5 lines long, pubescent outside, the lobes all short, nearly equal, and equally winged. Capsule small, nearly globular. Seeds flat, with a slightly thickened border, not winged.—De Vr. Gooden. 176.

Victoria. Snowy plains on Snowy River at an elevation of 4000 to 5000 feet, Mount Wellington (Gipps' Land) and Haidinger Range, *F. Mueller*.

Tasmania. Mountain districts, forming large patches, on Hampshire Hills, Western Mountains, etc., *J. D. Hooker*.

With the habit, inflorescence, calyx, ovary and fruit of *Velleia*, this differs from all the other species in the corolla, which is nearer to that of *Scarola* or of the section *Monochila* of *Goodenia*.

4. GOODENIA, Sm.

(Pierophyta, *F. Muell.*; Stekhovia, Tetraphylax and Aillya, *De Vr.*)

Calyx-tube adnate, sometimes exceedingly short, and usually shorter than the ovary; lobes 5, sometimes adnate at the base. Corolla-tube with the adnate part blended with the calyx-tube or produced above it or with a hollow protuberance on the under side between the calyx-lobes, sometimes forming a spur at the base of the calyx, slit on the upper side down to the adnate part, the limb oblique, the 2 upper lobes separated lower down, and



often arching over the genitalia or rarely all 5 lobes nearly equal and digitately spreading, all equally winged or the upper lobes with the wing more decurrent on the outer side, and sometimes dilated into a concave, inflexed auricle, which is usually thinner and less coloured than in *Dampiera*. Stamens free. Ovary inferior (at least as to the corolla), except the convex summit more or less prominent within the corolla, more or less 2-celled, the dissepiment from almost rudimentary to reaching nearly to the top of the cavity, always with a curved notch at the top, leaving the summit of the ovary 1-celled. Ovules ascending, rarely solitary in each cell, usually several in 2 rows, sometimes blended into 1 or crowded in more than 2 rows. Style undivided. Indusium cup-shaped, enclosing the truncate or divaricately 2-lobed stigma. Capsule opening in 2 valves parallel to the dissepiment or rarely splitting into 4 valves. Seeds usually flat, with a callous or winged margin, rarely thicker, and not bordered. Embryo usually about half as long as the albumen or shorter.—Herbs undershrubs or rarely shrubs. Leaves alternate or radical. Peduncles either axillary or in terminal racemes or panicles, 1-flowered, with or without bracteoles or bearing a cyme or cluster of few flowers, which are usually pedicellate above the bracts or rarely sessile between them.

The species are all limited to Australia; a few have the corolla, and some others the habit of *Scaevola*, but the majority are different from that genus in both respects, and all are readily known by their dehiscent capsule as well as by the ovules; in all, except *G. barbata*, more than one in each cell or on each side of the dissepiment.

SECT. I. **Monochila**.—*Corolla with the lobes all nearly equal and digitately spreading. Ovules either imbricate in two rows or few and erect from the base of the ovary.*

Flowers all axillary and nearly sessile. Branches all leafy.

Leaves entire, with revolute margins, white underneath. Flowers in short, leafy heads or spikes. Dissepiment very short.

Ovules few 1. *G. phyllicoides*.

Leaves toothed, viscid-pubescent. Dissepiment attaining to or exceeding the middle of the ovary.

Branches long, virgate. Leaves not $\frac{1}{2}$ in. long, the floral ones all similar 2. *G. viscida*.

Branches short. Leaves about 1 in. long, stem-clasping, the floral ones small. Spikes terminal, leafy. Capsule cylindrical 3. *G. xanthotricha*.

Flowers in a long, leafless, clustered and interrupted spike or narrow panicle. Leaves crowded at the base of the stem or up to the inflorescence 4. *G. scapigera*.

SECT. II. **Eugoodenia**.—*Corolla with the two upper lobes separated much lower than the others, and arching over the genitalia or rarely spreading. Ovules either imbricate in 1 or 2 rows in each cell of the ovary or few and erect from the base of the cavity.*

(Corolla-lobes less unequal in *G. Ramelii*.)

SERIES I. **Racemosa**.—*Flowers (yellow, white or blue) in a long, terminal, leafless, interrupted spike raceme or panicle.*

Capsule oblong-cylindrical, about $\frac{1}{2}$ in. long, at length 4-valved.

Raceme usually simple 5. *G. quadrilocularis*.

Capsule ovoid or ovoid-oblong, the 2 valves entire.

Peduncles all nearly equally cymose along the common rhachis.

Flowers blue 6. *G. Ramelii*.

- Peduncles long, filiform, the upper ones 1-flowered, the lower ones irregularly branched. Flowers yellow. Leaves linear-subulate 7. *G. pinifolia*.
 Peduncles short, the lower ones often several-flowered, the upper 1-flowered. Flowers yellow.
 Leaves oblong, toothed, decurrent 8. *G. decurrens*.
 Leaves linear, entire, very narrowly decurrent 9. *G. racemosa*.
 Flowers (yellow) in sessile clusters along the common rhachis. Leaves all or chiefly radical.
 Leaves from obovate to narrow oblong-spathulate, mostly toothed 10. *G. bellidifolia*.
 Leaves linear or slightly linear-cuneate, entire 11. *G. stelligera*.

SERIES II. Bracteolatæ.—*Peduncles axillary or radical or the upper ones very shortly racemose, bracteolate, 1-flowered, or when several-flowered the bracteoles at the base of the pedicels. Flowers yellow or white.*

- Glabrous, viscid or rarely viscid-villous undershrubs or shrubs. Leaves ovate, obovate, elliptical or lanceolate. Common peduncles very short, at least the lower ones, bearing several flowers.
 Leaves petiolate. Capsule cylindrical, the dissepiment reaching far above the middle 12. *G. ovata*.
 Leaves sessile, stem-clasping. Capsule ovoid-oblong, the dissepiment reaching halfway 13. *G. amplexans*.
 Leaves narrowed at the base. Capsule ovoid or oblong. Dissepiment scarcely any. Seeds 2 or 3, strophiolate, thick, not bordered 14. *G. strophiolata*.
 Dissepiment half as long as the ovary. Seeds several, flat, with a distinct border. Stem usually decumbent 15. *G. varia*.
 Glabrous or viscid-villous herbs. Leaves linear. Peduncles 1-flowered.
 Glabrous, decumbent. Bracteoles very small. Dissepiment half as long as the ovary. Seeds several 16. *G. lævis*.
 Glandular-pubescent or glabrous. Bracteoles linear. Dissepiment scarcely any. Ovules 2. Seeds scarcely flattened.
 Branching shrubs. Leaves obovate to lanceolate, mostly toothed 14. *G. strophiolata*.
 Undershrub. Leaves oblong-linear, mostly entire, with revolute margins 17. *G. barbata*.
 Viscid-villous. Bracteoles linear. Dissepiment short. Ovules few. Seeds broad 18. *G. arthrotricha*.
 Glabrous or hoary pubescent. Bracteoles very small. Dissepiment short. Ovules few. Seeds flat, oblong 19. *G. disperma*.
 Villous or rarely glabrous herbs, with tufted or rosulate, radical leaves, and decumbent, prostrate or creeping stems (very rarely nearly erect). Peduncles 1-flowered, radical or axillary, often long.
 Calyx-lobes linear, obtuse.
 Leaves linear-spathulate or narrow-oblong, entire or sinuate, all radical or stems shortly ascending 20. *G. geniculata*.
 Leaves obovate ovate or lyrate. Leafy stems procumbent 21. *G. lanata*.
 Calyx-lobes subulate or acuminate.
 Bracteoles at a distance from the flowers.
 Pedicels filiform.
 Leaves all petiolate, orbicular obovate or cuneate 22. *G. hederacea*.
 Plant glabrous mealy or shortly pubescent 23. *G. hirsuta*.
 Plant hispid-villous 24. *G. heterophylla*.
 Leaves nearly sessile, ovate or lanceolate, deeply toothed

Pedicels mostly very short and rather thick. Stems long and flagellate.

Plant glabrous 25. *G. glabra*.

Plant very villous 26. *G. strongylophylla*.

Bracteoles close to the calyx 27. *G. rotundifolia*.

(50. *G. corynacarpa*, with a cylindrical capsule, has sometimes small bracteoles close to the calyx.)

SERIES III. **Cæruleæ**.—*Peduncles axillary, bracteolate (except in G. Vilmoriniae) 1-flowered or the lower ones loosely cymose. Flowers blue.*

Bracteoles large, leafy, ovate or oblong. Plant glabrous . . . 28. *G. azurea*.

Bracteoles linear or small.

Plant very viscous-villous. Cymes leafy 29. *G. scævolina*.

Plant hoary or white, with woolly hairs 30. *G. incana*.

Plant glabrous or nearly so or the inflorescence glandular.

Stems procumbent, with small, ovate, stem-clasping leaves . 31. *G. leptoclada*.

Stems erect, with linear or lanceolate leaves.

Calyx-lobes acute. Lower corolla-lobes about as long as the entire part.

Radical and lower leaves the longest. Calyx-lobes very narrow.

Flowers about $\frac{3}{4}$ in. long. Stems rigid 32. *G. cærulea*.

Flowers 4 to 5 lines long. Stems slender. Peduncles filiform 33. *G. trichophylla*.

Lowest leaves shorter and more distant than the succeeding ones. Calyx-lobes lanceolate 34. *G. Hassaltii*.

Calyx-lobes obtuse. Lower corolla-lobes much longer than the very short entire part 35. *G. pterigosperma*.

Bracteoles none 36. *G. Vilmorinæ*.

(6. *G. Ramelii*, with a long, leafless panicle, has also the flowers blue.)

SERIES IV. **Foliosæ**.—*Erect or rarely decumbent herbs or undershrubs, usually glandular-pubescent or hirsute, with leafy stems. Peduncles axillary, 1-flowered, articulate under the flower, without bracteoles (or very rarely a few peduncles have 1 or 2 minute ones). Flowers yellow white or purple.*

Stem-leaves all broad, abruptly petiolate or pinnate. Plant glandular-pubescent or rarely glabrous, not villous.

Leaves more or less pinnate.

Protuberance of the corolla-tube produced into a spur . . . 37. *G. calcarata*.

Protuberance of the corolla-tube decurrent but not spurred.

Terminal lobe of the leaves usually cuncate at the base, lateral ones several.

Flowers yellow 38. *G. Nicholsoni*.

Flowers purple 39. *G. Macmillani*.

Terminal lobe of the leaves truncate or cordate at the base, lateral ones few or none 40. *G. grandiflora*.

Leaves without lateral segments on the petioles.

Leaves broadly ovate or cordate, acute or acuminate. Flowers yellow 40. *G. grandiflora*.

Leaves orbicular, petioles very short 41. *G. Chambersii*.

Leaves ovate-lanceolate or lanceolate, narrowed at the base. Flowers white 42. *G. albiflora*.

Stem-leaves contracted at the base into a short petiole or almost sessile. Plant villous or silky-hairy.

Very villous. Corolla-tube minutely spurred at the base of the calyx 44. *G. Mitchellii*.

Villous, often viscid. Leaves toothed. No spur to the corolla.

Calyx-lobes leafy. Corolla-lobes all winged 46. *G. sepulosa*.

- Calyx-lobes narrow. Upper lobes of the corolla much narrower than the others, and scarcely winged 45. *G. heterochila*.
(See also 51. *G. mollissima*.)
- Hairs appressed, almost silky. Leaves entire, long-lanceolate, crowded 43. *G. Strangfordii*.
- Stem-leaves sessile or stem-clasping. Annuals, with spreading hairs.
- Floral leaves sessile, narrow. Dissepiment of the capsule very short.
- Calyx-lobes lanceolate or linear, leafy. Leaves mostly toothed 46. *G. sepalosa*.
- Calyx-lobes linear-subulate. Stem-leaves mostly entire, linear or linear-lanceolate 47. *G. hispida*.
- Floral leaves cordate, auriculate, not decurrent. Dissepiment of the capsule exceedingly short 48. *G. auriculata*.
- Floral leaves more or less decurrent. Dissepiment reaching to the middle of the capsule 49. *G. Armstrongiana*.
- Stem-leaves contracted into a petiole. Capsule linear, $\frac{1}{2}$ to 1 in. long 50. *G. corynocarpa*.
(See also 54. *G. elongata*, 55. *G. pinnatifida*, 59. *G. glauca*, and 60. *G. filiformis*, with the stems sometimes leafy with linear leaves.)

SERIES V. **Pedicellosæ**.—Herbs with the leaves chiefly radical or tufted, the stem leaves either few and distant or collected in terminal tufts, rarely scattered and linear or reduced to bracts. Peduncles long, radical or in terminal tufts, or axillary, 1-flowered, without bracteoles.

- Softly tomentose villous or hirsute. Leaves orbicular obovate or broadly oblong, coarsely toothed.
- Leaves hirsute. Dissepiment reaching nearly to the top of the ovary 51. *G. mollissima*.
- Leaves softly villous or tomentose. Dissepiment almost rudimentary. Seeds winged 52. *G. cycloptera*.
- Hispid with spreading hairs. Leaves narrow.
- Stem-leaves linear or linear-lanceolate. Tropical species . . . 47. *G. hispida*.
- Stem-leaves few and small. Western species 60. *G. filiformis*, var.
- Glabrous or with scattered or appressed or silky hairs.
- Radical leaves obovate ovate or oblong, entire or sinuate.
- Flowers small. Leaves all rosulate or in terminal tufts. Dissepiment very short. Seeds broadly bordered 53. *G. tenella*.
- Flowers large. Stem-leaves few but scattered. Dissepiment reaching the middle of the ovary. Seeds scarcely bordered 54. *G. elongata*.
- Radical leaves pinnatifid.
- Flowers small. Leaves and pedicels all radical or in terminal tufts. Dissepiment reaching above the middle of the ovary.
- Seeds winged 57. *G. heteromera*.
- Flowers rather large. Leaves sometimes scattered. Dissepiment short. Seeds winged 55. *G. pinnatifida*.
- Flowers small. Leaves sometimes scattered. Seeds broadly winged 56. *G. coronopifolia*.
- Radical leaves entire, linear or lanceolate.
- Dissepiment reaching far above the middle of the ovary.
- Leaves and peduncles all radical or in terminal tufts . . . 57. *G. heteromera*.
- Stems ascending, with scattered peduncles and floral leaves or bracts 58. *G. concinna*.
- Dissepiment short. Leaves and peduncles scattered. Seeds winged.
- Flowers rather large, yellow. Indusium glabrous 59. *G. glauca*.
- Flowers small, yellow. Indusium pubescent 60. *G. filiformis*.
- Flowers small (purple?). Radical leaves often pinnatifid . 56. *G. coronopifolia*.
- Doubtful, perhaps allied to *G. glauca*, but foliage unknown . . 61. *G. microptera*.

SECT. III. **Amphichila.**—*Corolla with the 2 upper lobes separated much lower down than the others. Ovules very numerous, closely packed in more than 2 rows in each cell of the ovary. Flowers small, in leafless panicles or on radical scapes.*

Flowering stems $\frac{1}{2}$ to 2 ft. high, several times longer than the radical leaves.

Leaves in the lower part of the stem from obovate to lanceolate, mostly toothed 62. *G. paniculata*.

Leaves chiefly or entirely radical, linear or linear-lanceolate, entire.

Flowers purple 63. *G. purpurascens*.

Flowers yellow.

Panicle loose and moderately branched. Leaves not conspicuously veined 64. *G. gracilis*.

Panicle very much branched. Leaves rigid, conspicuously veined 65. *G. lamprosperma*.

Flowering stems shorter than or scarcely exceeding the linear or linear-lanceolate radical leaves 66. *G. humilis*.

Flowering stems 2 to 4 in. high, much exceeding the tufted or rosulate membranous radical leaves.

Leaves linear. Stock almost bulbous 67. *G. Laytoniana*.

Leaves ovate, rosulate 68. *G. bicolor*.

Dwarf creeping or stoloniferous plant. Leaves ovate, in rosulate tufts. Scares or peduncles filiform, mostly 1-flowered . . . 69. *G. pumilio*.

G. stolonifera, De Vr. Gooden. 135, from Verreaux's collection, which I have not seen, may possibly from his description be the same as *G. tenella*.

G. lanceolata and *G. latifolia* are garden names taken up by Steudel, but which have never to my knowledge been described.

SECT. I. **MONOCHILA**, *G. Don*. Corolla (usually yellow or white) with the lobes all nearly equal and digitately spreading as in *Scarola*. Ovules either imbricate in two rows in each cell or few and erect from the base of the ovary.

1. **G. phyllicoides**, *F. Muell. Fragm.* i. 206. An erect branching undershrub or shrub of 1 to 2 ft., clothed with a short white woolly tomentum. Leaves rather crowded, oblong-lanceolate or almost linear, obtuse, entire, with revolute margins, narrowed at the base, $\frac{1}{2}$ to 1 in. or rarely $1\frac{1}{2}$ in. long, coriaceous and becoming glabrous and shining above, white underneath. Flowers white, sessile in the upper axils, forming a short compact terminal leafy spike or head. Calyx-tube exceedingly short; lobes linear, softly ciliate, about 3 lines long. Corolla tomentose-pubescent outside, 6 to 7 lines long, the lobes all nearly equal and spreading. Ovary almost 1-celled, the dissepiment almost rudimentary in the bottom of the cavity; ovules about 5 or 6, erect. Indusium very shortly ciliate. Fruit not seen. *Dampiera*? *polygalacea*, De Vr. Gooden. 115.

W. Australia. *Dreadnought*, n. 356; Kalbar river, *Oldfield*; Plantagenet and Stirling Ranges and scrubby plains towards West Mount Barren, *Maxwell*.

2. **G. viscida**, *R. Br. Prod.* 578. A glabrous usually viscid perennial, with a thick almost woody stock and erect virgate simple or slightly-branched leafy stems of $\frac{1}{2}$ to $1\frac{1}{2}$ ft. Leaves sessile, from broadly lanceolate to almost linear, rarely exceeding $\frac{1}{2}$ in. and often much smaller, entire or slightly toothed. Flowers small, yellow, axillary, sessile or nearly so, and scarcely

exceeding the leaves. Bracteoles linear. Calyx-lobes linear, much longer than the tube. Corolla glabrous outside, 3 to 4 lines long, the lobes nearly equal, slightly and irregularly winged. Dissepiment of the ovary reaching to above the middle; ovules 5 or 6 in each cell. Indusium shortly 2-lobed, not at all or very minutely ciliate; stigma divaricately 2-lobed, but scarcely more so than in many other species. Fruit not seen. —DC. Prod. vii. 516; *Stekhovia viscida*, De Vr. Gooden. 163; *Goodenia spicata*, F. Muell. Fragn. iii. 35.

W. Australia. Lucky Bay, *R. Brown*; Oldfield river and moist flats west of Moir's Inlet, *Maxwell*; also *Drummond*, 3rd Coll. n. 164.

3. ***G. xanthotricha***, *De Vr. Gooden.* 155. An erect glandular-pubescent and apparently viscid undershrub or shrub with leafy branches. Leaves sessile and stem-clasping, lanceolate or linear, with revolute margins, toothed or rarely entire, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long, the floral ones gradually smaller, linear and entire. Flowers sessile in dense terminal leafy spikes, at first very short, at length 3 or 4 in. long. Bracteoles linear, obtuse. Calyx-tube short; lobes linear, obtuse, 3 lines long or rather more. Corolla glandular-pubescent outside, 6 to 7 lines long, the lobes nearly equal and equally winged. Ovary adnate to the corolla-tube above the calyx-tube, the dissepiment reaching nearly to the top; ovules rather numerous, in 2 rows in each cell. Indusium very shortly ciliate. Capsule oblong-linear, 3 or 4 lines long, opening at length nearly to the base in 4 valves. —*G. leptotheca*, F. Muell. Fragn. vi. 13.

W. Australia. *Drummond*, 4th Coll. n. 195. The specimens are identified by De Vries in Herb. Hook. as his *G. xanthotricha*, which he at first intended to refer to *Dampiera*, and they agree with his description, excepting as to the seeds, said to be only 2 in each cell, which he must have taken from some other plant.

4. ***G. scapigera***, *R. Br. Prod.* 578. A stout erect perennial or undershrub of 1 to 2 ft., quite glabrous or with a very little wool in the lower axils. Leaves in the typical form crowded in the lower part of the stem, linear or lanceolate, thick, entire or rarely with a few minute remote teeth, $1\frac{1}{2}$ to 3 in. long, narrowed into a petiole, usually dilated at the base. Flowers white, in a leafless narrow panicle, sometimes contracted into a short dense spike at the end of a long peduncle, sometimes 6 to 9 in. long, interrupted or with long branches at the base, the primary inflorescence racemose and the upper peduncles 1-flowered, the lower peduncles or branches irregularly several-flowered. Bracts and bracteoles narrow, subulate-acuminate. Calyx-lobes subulate. Corolla glabrous outside, 6 to 8 lines long, the adnate part of the tube with a saccate protuberance decurrent between the calyx-lobes, the lobes nearly equal and all winged, the throat with purple spots or streaks under each lobe. Ovary with a dissepiment reaching above the middle and rather numerous ovules in 2 rows in each cell. Indusium not at all or scarcely ciliate. Seeds broad, with a thickened and sometimes winged margin. —DC. Prod. vii. 516; F. Muell. Fragn. i. 114; *Scaevola stricta*, De Vr. in Pl. Preiss. i. 408; *Stekhovia scapigera*, De Vr. Gooden. 167. t. 32.

W. Australia. Lucky Bay, *R. Brown*; Point Henry, *Oldfield*; Koukoberup hills, *Preiss*, n. 1511; cold summits of Stirling Range, *F. Mueller*, sandhills and rocks, E. Mount Barren to Cape le Grand, *Maxwell*, also *Drummond*, n. 403.



Goodenia Ramelii. *F. M.*

Var. (B. R. Br.) *foliosa*, F. Muell. Leaves sessile, from ovate to lanceolate, toothed, crowded on the stem up to the inflorescence.—With the typical form, *R. Brown, Maxwell*.

Var. *parviflora*. Leaves narrow, all from the stock. Spike at the end of a long leafless scape or peduncle, short and very compact. Corolla 4 to 5 lines long.—*Plantagenet, Stirling, and Phillips Rauges, Maxwell*.

SECT. II. EUGOODENIA. Corolla with the 2 upper lobes separated much lower than the others and arching over the genitalia or rarely spreading. Ovules either imbricate in 1 or 2 rows in each cell of the ovary or few and erect from the base of the cavity.

SERIES I. RACEMOSÆ. Flowers (yellow white or blue) in a long terminal leafless interrupted spike raceme or panicle.

5. *G. quadrilocularis*, *R. Br. Prod.* 578. Glabrous, erect, with hard simple or slightly-branched stems, 1 to 1½ ft. high, leafy only in the lower half. Leaves petiolate, from obovate or oblong-spathulate to lanceolate, toothed, the larger ones often 2 to 3 in. long, the upper ones smaller and more sessile, the floral ones reduced to small linear bracts or the lowest rarely larger and more leafy. Flowers solitary under each bract in a terminal virgate interrupted raceme, the upper pedicels very short, with the linear bracteoles close under the flower, the lower ones sometimes very long, with the bracteoles distant. Calyx-tube nearly 3 lines long, the lobes shorter, lanceolate. Corolla slightly pubescent outside, ¾ in. long, the upper lobes separated low down, with a broad wing on the outside, forming a slightly concave auricle. Ovary 2-celled nearly to the summit, with numerous ovules in 2 rows in each cell. Capsule about ½ in. long, splitting at length to the base into 4 valves marked on the inside with the impressions of the ends of the seeds, which are orbicular, flat, with a thickened margin. DC. *Prod.* vii. 515; F. Muell. *Fragm.* vi. 13; *G. Tylori*, F. Muell. *Fragm.* iii. 111; *Tetraphyllum quadrilocularis*, De Vr. *Gooden.* 165 (but not *Dampiera Lindleyi* nor Preiss's n. 1474, quoted by De Vriese).

W. Australia. Lucky Bay, *R. Brown*; King George's Sound or to the eastward, *Baxter*; sand hills, Orleans Bay, *Maxwell*. The capsule is described as 4-celled, I have only found a slight protrusion of the placenta along the centre of the dissepiment, but nothing like a complete cross dissepiment, real or spurious.

6. *G. Ramelii*, F. Muell. *Fragm.* iii. 20, t. 17. Probably a tall plant, with the habit of *G. decurrens*. Stem-leaves lanceolate, entire, more or less decurrent. Inflorescence a foot long, the floral leaves reduced to very small bracts, the rachis rigid and glabrous. Peduncles numerous, more equal in length than in most species, each one bearing a glandular-pubescent divaricate cyme of 3 to 7 blue flowers. Bracteoles minute. Calyx densely glandular-pubescent, the tube about 2 lines long, the lobes shorter, lanceolate. Corolla glandular-pubescent outside, fully ½ in. long, the upper lobes free almost to the base and unequally winged, but not so much so as in some species. Ovary divided up to about ¾, the ovules in 2 rows. Indusium ciliate. Capsule oblong, but not seen ripe.

N. Australia. Attek Cully, *MacDougal Stuart*, a single imperfect specimen (*H. B. F. M. H.*).

7. **G. pinifolia**, *De Vr. Gooden.* 157. t. 30. An erect shrub, the short leafy branches clothed with a white tomentum, otherwise glabrous. Leaves crowded, linear-terete, entire, $\frac{1}{2}$ to 1 in. long. Panicles terminal, loose and slender, about 6 to 9 in. long, the primary branches or peduncles filiform, the upper ones 1-flowered, the lower irregularly several-flowered. Bracts and bracteoles minute. Calyx-lobes linear, acute. Corolla yellow, glabrous outside, nearly $\frac{1}{2}$ in. long, the tube sometimes adnate higher up than the calyx, the upper lobes separated lower than the lower ones and rather unequally winged. Dissepiment of the ovary exceedingly short; ovules 3 or 4. Indusium not ciliate. Capsule ovoid-globular, scarcely 2 lines long. Seeds rather large broad and flat, with a thickish border.

W. Australia. Swan River, *Drummond*, 1st Coll.

8. **G. decurrens**, *R. Br. Prod.* 575. A rather rigid perennial, with ascending or erect stems of 1 to 2 ft., leafy only in the lower half, quite glabrous or the inflorescence slightly pubescent. Leaves oblong or the lower ones rarely ovate, toothed or rarely entire, $1\frac{1}{2}$ to 3 or even 4 in. long, the upper ones all more or less decurrent on the stem, the floral ones all reduced to small linear bracts. Flowers rather large, yellow, in a terminal leafless irregular raceme or narrow panicle, the upper peduncles 1-flowered, the lower ones often bearing a loose cyme of 3 to 5 flowers. Bracteoles very small. Calyx-lobes linear or lanceolate. Corolla about $\frac{3}{4}$ in. long, the upper lobes separate lower down than the others and unequally winged. Dissepiment of the ovary reaching high up; ovules several in 2 rows in each cell. Indusium ciliate. Capsule 3 to 4 lines long. Seeds flat with a thickened margin.—*DC. Prod.* vii. 513; *De Vr. Gooden.* 138.

N. S. Wales. Common in the Blue Mountains, *R. Brown*, *Sieber*, n. 231, *Fraser*, and others.

9. **G. racemosa**, *F. Muell. Fragm.* i. 114. A glabrous shrub or undershrub of $1\frac{1}{2}$ to 3 ft., the branches angular, with raised lines decurrent from the leaves. Leaves rather crowded, narrow-linear, entire, mostly 1 to $1\frac{1}{2}$ in. long, the floral ones reduced to small linear bracts. Flowers rather small, in a dense terminal raceme, the peduncles short, the lower ones often with a cluster of 2 or 3 flowers, the upper ones 1-flowered. Calyx-lobes subulate. Corolla slightly glandular-pubescent, about $\frac{1}{2}$ in. long, the upper lobes separate lower down than the others. Ovary very prominent within the corollatube, the dissepiment short; ovules not numerous, in 2 rows in each cell. Capsule ovoid, about 3 lines long. Seeds rather large, flat.

Queensland. Arid ranges on the Burnett river, *F. Mueller*.

10. **G. bellidifolia**, *Sm. in Trans. Linn. Soc.* ii. 349. A perennial with a tufted stock, glabrous except the inflorescence, or the base of the leaves also pubescent, the flowering stems leafless or nearly so, 1 to $1\frac{1}{2}$ ft. high. Leaves radical, petiolate, from broadly obovate and 1 to $1\frac{1}{2}$ in. long to narrow oblong-spathulate and 3 or 4 in. long, always broader than in *G. stelligera*, entire or irregularly toothed, rather thick; the stem ones few and very small or none besides the small floral bracts. Flowers rather small, sessile or nearly so in little clusters along the rhachis of a long interrupted

spike, the upper ones usually solitary. Bracteoles small. Calyx-lobes linear or subulate. Corolla less villous outside than in *G. stelligera*, rarely $\frac{1}{2}$ in. long, the upper lobes separate low down and unequally winged. Dissepiment of the ovary reaching high up; ovules in 2 rows in each cell. Indusium ciliate. Capsule ovoid, about 2 to $2\frac{1}{2}$ lines long. Seeds flat, with a thickish border.—R. Br. Prod. 575; DC. Prod. vii. 513; De Vr. Gooden. 122.

Queensland. Dawson river, *F. Mueller*; near Brisbane, *Leichhardt*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Seiber*, n. 229, *Fl. Mirt.* n. 619, and others; Hastings and Clarence rivers and Mount Mitchell, *Beckler*; New England, *C. Stuart*.

G. spatulata, De Vr. Gooden. 123, from Botany Bay, *Huegel*, must, from the character given, be the same species.

11. *G. stelligera*, *R. Br. Prod.* 575. A perennial, with a tufted stock and erect, almost leafless stems of 1 to $1\frac{1}{2}$ ft., glabrous or the inflorescence pubescent. Radical leaves linear or slightly linear-cuneate, obtuse, rather thick, entire, sometimes 5 or 6 in. long but usually half that size; stem-leaves very few and much shorter, floral ones reduced to linear bracts. Flowers yellow, sessile or nearly so, in distant clusters of 2 or 3, the upper ones solitary, in a long, interrupted spike. Calyx-lobes linear or linear-lanceolate. Corolla densely villous outside, with a glandular pubescence concealed under the longer hairs, 7 to 8 lines long, the upper lobes separated low down, and unequally winged. Dissepiment of the ovary reaching high up; ovules in 2 rows in each cell. Indusium ciliate. Capsule ovoid-oblong, 3 to 4 lines long. Seeds flat, with a thickish border.—DC. Prod. vii. 513; De Vr. Gooden. 124; *S. armeriaefolia*, *Sieb.*; DC. Prod. vii. 513; De Vr. Gooden. 129, as to the eastern plant; *G. longifolia*, De Vr. Gooden. 127.

Queensland. Moreton Island, *McGillivray*, *F. Mueller*. Some of the more luxuriant specimens prolificously-branched, with tufts of leaves and a secondary flowering stem.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Seiber*, n. 229, and others; northward to Hastings river, *Beckler*; near Darval, *Leichhardt*; and southward to Mount Imlay, *F. Mueller*.

De Vriese quotes *Seiber*'s specimens both for *G. stelligera*, Goodenov. p. 124, and for *G. armeriaefolia*, p. 129, and mixes up with the latter *Preiss*'s n. 2032, which is *Diaspis filifolia*.

SERIES 2. BRACTEOLATE. Peduncles axillary or radical or the upper ones very shortly racemose, bracteolate, 1-flowered or when several-flowered the bracteoles at the base of the pedicels. Flowers yellow or white.

12. *G. ovata*, *Sm. in Trans. Linn. Soc.* ii. 347. An erect, glabrous, often somewhat viscid shrub or undershrub of 2 to 4 ft. Leaves petiolate, from ovate to broadly lanceolate or the lower ones sometimes almost orbicular-cordate, denticulate, 1 to 2 in. long. Peduncles axillary, often 2 together or forked near the base, slender and often several-flowered, but rarely exceeding the leaves. Bracteoles very small, at a distance from the flower. Calyx-tube linear, lobes subulate. Corolla yellow, glabrous outside, about $\frac{1}{2}$ in. long, the upper lobes deeply separate. Dissepiment reaching high up in the ovary. Indusium strongly ciliate. Capsule narrow, 4 to 6 lines long, slightly tapering at the base. Seeds flat, almost in a single row in each cell.—Cav. Ic. vi. t. 506; Vent. Jard. Cels. t. 3; Andr. Bot. Rep. t. 68; R. Br.

Prod. 576; DC. Prod. vii. 514; De Vr. Gooden. 141; Hook. f. Fl. Tasm. i. 232.

Queensland. Moreton Bay, *Fitzalan*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 232 and *Fl. Mirt.* n. 538, and others; Hastings river, *Beckler*.

Victoria. Port Phillip, *R. Brown*; near Melbourne, *Adamson*, *Robertson*; dry rocks near Morra-Morra and Mount Disappointment, *F. Mueller*; Creswick, *Whan*.

Tasmania. Kent's Group and Port Dalrymple, *R. Brown*; abundant in copse woods, etc., *J. D. Hooker*.

S. Australia. Onkaparinga, Torrens river, Lofty Range, etc., *F. Mueller* and others; Three-Well river, *Waterhouse*.

G. acuminata, *R. Br.* Prod. 575; DC. Prod. 513; De Vr. Gooden. 140, is a broadly lanceolate-leaved form, common in the Blue Mountains, passing gradually into the common broad-leaved form, and sometimes broad and narrow leaves may be seen on the same specimen.

13. ***G. amplexans***, *F. Muell. in Trans. Phil. Inst. Vict.* ii. 70. An erect, glandular-pubescent or villous perennial or undershrub. Leaves sessile and stem-clasping, with broad auricles, ovate-lanceolate or oblong, denticulate, mostly 2 to 3 in. long, the upper ones gradually smaller, and in some small states all ovate and under 1 in. long. Flowers solitary or 2 or 3 together in the axils, the common peduncle exceedingly short or none, and the pedicels shorter than the calyx-tube, with very small bracteoles at their base. Calyx-lobes rather short. Corolla yellow, glandular outside, 6 to 8 lines long, the upper lobes separated much lower than the others. Capsule ovoid-oblong, the dissepiment reaching about halfway up. Seeds oval oblong, flat, with a rather thick margin.

Victoria? Nile rivulet, *Herb. F. Mueller*.

S. Australia. Ridges and gullies near Adelaide, Holdfast Bay, Lofty Ranges, *F. Mueller*.

Var. *parvifolia*. Small, with leaves scarcely above $\frac{1}{2}$ in. long.—Mount Arapiles, *Dallachy*.

14. ***G. strophiolata***, *F. Muell. Fragm.* i. 119. A glabrous, viscid, branching shrub of 1 to 2 ft. or sometimes twice that height, erect or with straggling, divaricate branches. Lower leaves obovate, oblong-spathulate or elliptical, the upper ones or sometimes nearly all oblanceolate, acutely toothed or entire, mostly narrowed into a short petiole, in some specimens 1 to $1\frac{1}{2}$ in. long, in others all under 1 in., the upper floral ones smaller. Peduncles in the upper axils nearly as long as or longer than the leaves, 1-flowered with linear bracteoles at a distance from the flower, or short and 2- or 3-flowered, the pedicels when the flower is solitary reflexed from the bracteoles after flowering as in *G. geniculata* and *G. heterophylla*. Calyx-lobes linear, acute, often free lower down than the corolla-tube. Corolla glabrous or minutely tomentose outside, $\frac{1}{2}$ in. long or rather more, the upper lobes separated much lower down than the others, but nearly equally winged. Ovary with a short dissepiment, and 3 or 4 erect ovules on each side. Fruit ovoid-oblong, 2 to 3 lines long. Seeds usually only 2 perfect, oblong, thick and smooth, without any prominent margin, like those of *G. barbata*, but the funicle is expanded into a conspicuous, oblique strophiola.

W. Australia. *Dryandra*, n. 196, 355; rocks and clay flats E. Mount Barron to

Phillips and Fitzgerald Ranges, *Maxwell*. The strophiola of the seed, already perceptible on the ovule, is, as far as hitherto observed, exceptional in the genus.

15. *G. varia*, *R. Br. Prod.* 576. A glabrous perennial or undershrub, the stems either long and prostrate or decumbent at the base, and ascending to the height of $\frac{1}{2}$ to 1 ft. Lower leaves usually broad, obovate or orbicular, narrowed into a petiole, the upper ones ovate-oblong or sometimes in erect branches lanceolate or linear, all thick, coriaceous, toothed or rarely entire. Peduncles axillary, 1- to 3-flowered, shorter than the leaves. Bracteoles small, narrow. Calyx-tube short, lobes narrow. Corolla glabrous outside, 6 to 7 lines long, the tube adnate higher up than the calyx, but the summit of the ovary free, the upper lobes separated much lower than the others. Dissepiment reaching to about the middle of the ovary; ovules in 2 rows. Capsules 3 to 4 lines long. Seeds flat, oblong, not winged.—DC. *Prod.* vii. 514; De Vr. *Gooden.* 142; F. Muell. *Fragm.* i. 205.

S. Australia. Petrol Bay, Flinders Island, Memory Cove, *R. Brown*; rocky places and salt lagoons on the Murray and Flinders Range, St. Vincent's and Spencer's Gulfs, *F. Mueller* and others; Veenus and Streaky Bays, *Warburton*.

G. marginata, De Vr. *Gooden.* 143, said by him to be near *G. varia*, may not be a *Goodenia* at all, as neither the flower nor the fruit has been seen.

16. *G. lævis*, *Benth.* Quite glabrous, procumbent or ascending, and branched. Lower leaves oblong-cuneate, obtuse, with 2 or 3 coarse teeth or lobes, narrowed into a short petiole, 1 to $1\frac{1}{2}$ in. long, the upper ones narrow-linear, entire, all rather thick and smooth. Peduncles axillary, 1-flowered, rarely exceeding the leaves. Bracteoles linear, sometimes very small, close under the flower. Calyx-lobes linear. Corolla yellow, glabrous outside, about $\frac{1}{2}$ in. long or rather more, the lobes all winged, the upper ones separated low down, and the wings unequal. Dissepiment reaching high up in the ovary; ovules numerous, in 2 rows. Style slightly pubescent. Indusium ciliate. Capsule ovoid-oblong, about 3 lines long. Seeds flat, not winged.

W. Australia. Phillips Ranges, *Maxwell*.

17. *G. barbata*, *R. Br. Prod.* 576. A perennial or sometimes undershrub, with erect branches, often long and virgate, more or less glandular-pubescent. Leaves oblong-linear or lanceolate, obtuse, with revolute margins, entire or slightly toothed, rarely above 1 in. long and usually shorter. Peduncles 1-flowered in the upper axils, rarely exceeding the leaves. Bracteoles linear, at a distance from the flowers, and the pedicels reflexed after flowering. Adnate calyx-tube very short; lobes linear or linear-lanceolate, 2 to 3 lines long, adnate at the base. Corolla about $\frac{3}{4}$ in. long, pubescent outside, with stellate mixed with glandular hairs, the tube with long, reflexed fringes inside descending from the margins of the lobes, the 2 upper lobes separate almost to the adnate part of the tube. Dissepiment of the ovary very short, with 1 erect ovule on each side. Capsule ovate. Seeds 2, oblong, less compressed than in most species, smooth and almost shining, without any prominent border.—DC. *Prod.* vii. 514; De Vr. *Gooden.* 145; *G. cistifolia*, A. Cunn.; DC. *Prod.* vii. 516; De Vr. *Gooden.* 150; F. Muell. *Fragm.* ii. 110, 176.

N. S. Wales. Blue Mountains, *Caley in Herb. Br.*, *A. Cunningham*, and others; Camden, *Leichhardt*; heathy ground and dry, stony ridges, Twofold Bay, *F. Mueller*.

Tasmania. Port Dalrymple, *R. Brown*. A single, imperfect specimen.

18. **G. arthrotricha**, *F. Muell. Herb.* Herbaceous, apparently perennial, scabrous-pubescent or hirsute, the stems erect and branching, 1 to 2 ft. high. Leaves all linear and entire, the lower ones often 2 or 3 in. long. Peduncles axillary, 1-flowered, longer than the leaves, with 2 long, linear bracteoles or the lower ones branching out into a loose, dichotomous cyme. Calyx-lobes linear or linear-lanceolate, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Corolla $\frac{3}{4}$ to 1 in. long, the lobes broadly winged, the upper ones separated low down. Indusium ciliate. Dissepiment not reaching to the middle of the ovary; ovules few, in 2 rows on each side. Capsule ovoid, 3 to 4 lines long. Seeds broad and flat, not winged.

W. Australia, *Drummond, Ath. Coll. n. 190 and 197.*

19. **G. disperma**, *F. Muell. Fragm. i. 113.* Herbaceous, erect, branching, rather slender, hoary-pubescent or nearly glabrous, the specimens seen all under 1 ft. high. Leaves linear, entire, 1 to 3 in. long, without larger radical ones. Peduncles short, axillary, 1-flowered or the flowers almost sessile. Bracts very small, setaceous, at a distance from the flower when pedunculate. Calyx-lobes almost setaceous. Corolla under $\frac{1}{2}$ in. long, pubescent outside, the upper lobes separated almost to the base and shorter than the others, broadly winged on the outer edge, but scarcely auriculate. Dissepiment of the ovary exceedingly short, with about 6 erect ovules. Capsule ovoid-oblong, about 3 lines long. Seeds oblong, flat, about 2 lines long, minutely granular, with scarcely any border.—*G. sessiliflora*, *F. Muell. Fragm. iv. 145.*

Queensland. Sandy plains between the Mackenzie, Dawson, and Barnett rivers, *F. Mueller*; Cape river, *Bowman*. Although only from 2 to 4 of the seeds usually come to maturity, there appear to be always at least 6 ovules.

20. **G. geniculata**, *R. Br. Prod. 577.* A perennial, with a tufted and often creeping rootstock, emitting occasionally short, decumbent or ascending leafy stems, rarely more vigorous and 6 to 9 in. high. Indumentum in some specimens consisting entirely of simple hairs, in others woolly at the base of the leaves or the whole plant cottony or rarely entirely clothed with a long, dense wool. Leaves chiefly radical, petiolate, from linear to obovate-oblong, obtuse, entire or slightly sinuate-toothed, varying from about 1 to above 3 in. long, those on the short stems more sessile. Scapes or peduncles 1-flowered, usually longer than the leaves. Bracteoles linear, at a distance from the flower, the pedicels bent back from the bracteoles after flowering. Calyx-lobes oblong or linear, rather obtuse. Corolla yellow, pubescent outside, $\frac{1}{2}$ to $\frac{3}{4}$ in. or rarely 1 in. long, the 2 upper lobes separated low down and unequally winged. Dissepiment of the ovary reaching to above the middle, the conical summit of the ovary free. Ovules varying from 7 or 8 to twice that number in each cell, in 2 rows. Capsule ovoid, 3 to 4 lines long. Seeds broad, flat, with a thick margin.—*DC. Prod. vii. 514*; *De Vr. Gooden. 136*; *Hook. f. Fl. Tasm. i. 232.*

N. S. Wales. Between the Murray and Darling rivers, *Victoria and other Expeditions*.

Victoria. Port Phillip, *R. Brown* and others; near Melbourne, *F. Mueller*, *Adansonia*; Portland, *Allitt*; Grampians, *Wilhelmi*; Wimmera, *Dallachy*.

Tasmania. Rocky Cape, *Gunn*.

S. Australia. Port Lincoln, *R. Brown*, *Wilhelmi*; from the Murray to St. Vincent's and Spencer's Gulf, *F. Mueller* and others.

W. Australia. *Dreumond*, n. 405; Mount Barker, Bremer Bay to Phillips Flats, *Maxwell*.

In the Tasmanian specimens, and most of those from the neighbourhood of Melbourne, the indumentum consists entirely of simple hairs, or with a little wool at the base of the leaves. In the var. *primulacea* (*G. primulacea*, Schlecht. *Linnaea*, xx. 601; De Vr. Gooden. 158), there are a few, or scarcely any simple hairs, and the foliage is more or less clothed with a short and close, or longer and less intricate cottony wool. This is the commonest form in South Australia, N.W. Victoria, and on the Murray. In a third var., *erioplylla* (*Scaevola geniculata*, De Vr. in Pl. Preiss. i. 404; *Goodenia affinis*, De Vr. Gooden. 157), the leaves are large, thick, and soft, and the whole plant is covered with a long, shaggy wool. To this belong the W. Australian and some of the S. Australian specimens. Some of Brown's from Port Lincoln pass into a fourth variety, *robusta*, with the wool of *erioplylla*, but with stout, almost erect stems $\frac{1}{2}$ to nearly 1 ft. high, the scapes or pedicels both radical and axillary as in the other varieties. This, which, at first sight, would be taken for a very distinct species, we have from Wimmera, *Dallachy*; Lake Koorong, *Herb. F. Mueller*; and Marble Range, *Wilhelmi*.

21. **G. lanata**, *R. Br. Prod.* 577. Very near the var. *primulacea* of *G. geniculata*, with the same indumentum, peduncles, and flowers, but the rootstock appears to be less creeping, the stems usually elongated, prostrate, and often rooting at the nodes, and the leaves are much broader, mostly obovate, and more deeply toothed.—*DC. Prod.* vii. 514; De Vr. Gooden. 146, t. 26.

N. S. Wales. New England, *C. Stuart*.

Victoria. Glenelg river, Bharat, Eureka, Buaip Creek, *F. Mueller*; Creswick Diggings, *Whan*.

Tasmania. Port Dalrymple, *R. Brown*; common in dry pastures, *J. D. Hooker*.

J. D. Hooker (*Fl. Tasm.* i. 232) unites this with the northern *G. hederacea*, from which it appears to me to differ in the calyx and bracteoles as well as in indumentum. *F. Mueller* unites it with *G. geniculata*, to which it is certainly closely allied, but I have never seen any forms of that species with prostrate stems and broad leaves approaching those of *G. lanata*.

22. **G. hederacea**, *Sm. in Trans. Linn. Soc.* ii. 349. A perennial, with a thick hard often woody stock and long trailing rather slender stems, often rooting at the nodes, and sometimes ascending or nearly erect to the height of 6 in. or more, the whole plant sometimes clothed with a very close white tomentum, which is rarely wanting on the under side of the leaves, the upper side soon becoming glabrous. Leaves petiolate, obovate or orbicular, usually irregularly toothed, cuneate or cordate at the base, the upper floral ones sometimes narrow-ovate or spatulate and entire. Peduncles slender, axillary, usually exceeding the leaves, 1- to 3-flowered. Bracteoles small and narrow, at a distance from the flower. Calyx-tube very narrow-turbinate, prominently 5-ribbed, the lobes narrow and acute. Corolla slightly tomentose outside, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, the upper lobes separated low down. Dissepiment of the ovary reaching far above the middle. Capsule ovoid.

Seeds flat, not winged.—R. Br. Prod. 577; DC. Prod. vii. 514; De Vr. Gooden. 147. t. 27.

Queensland. Burnett river, *F. Mueller*; Moreton Bay, *C. Stuart*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; northward to Clarence river and Mount Mitchell, *Beckler*; New England, *C. Stuart*; Head of the Gwydir river, etc., *Leichhardt*, and in the western interior between the upper Bogan and Lachlan rivers, *L. Morton*.

Victoria. Upper Snowy River, Haidinger Range, Mount Buller, at an elevation of 5000 ft., *F. Mueller*.

The Queensland specimens have generally more erect and shorter stems, with the leaves not so broad, but appear to belong to the same species, differing from *G. geniculata* in habit, in the smaller, differently-shaped calyces with acute lobes, and in their slender peduncles frequently 3-flowered, from *G. rotundifolia* easily distinguished by the bracteoles at a distance from the flower.

23. *G. hirsuta*, *F. Muell. Fragm.* iii. 35. The single fragment upon which this species is founded shows the procumbent habit of *G. hederacea*, but is hispid all over with rigid hairs. Radical leaves petiolate, obovate or ovate, coarsely toothed, and sometimes with 1 or 2 additional lobes on the petiole; leaves on the procumbent stems shortly petiolate, broadly ovate or orbicular, $\frac{1}{2}$ to 1 in. long. Peduncles axillary, longer than the leaves, with linear bracteoles about the middle. Flowers unknown. Capsule 3 to 4 lines long, the dissepiment reaching at least to the middle, with several large flat winged seeds.

Central Australia, *M'Douall Stuart* (*Herb. F. Muell.*).

24. *G. heterophylla*, *Sm. in Trans. Linn. Soc.* ii. 349. A pubescent or hirsute perennial or perhaps sometimes annual, with decumbent ascending or rarely erect rather slender leafy stems of $\frac{1}{2}$ to 1 ft. or sometimes much longer and procumbent or flexuose. Leaves ovate-lanceolate or almost linear, truncate or contracted at the base, and often shortly petiolate, coarsely and irregularly toothed or lobed or rarely entire, $\frac{1}{2}$ to 1 in. long or rarely more. Peduncles axillary, filiform, bearing 1 or rarely 2 or 3 rather small flowers; bracteoles setaceous, at a distance from the flower. Calyx-tube turbinate, prominently 5-ribbed, the lobes setaceous. Corolla yellow, scarcely $\frac{1}{2}$ in. long, glabrous or slightly pubescent outside; the upper lobes separated low down, unequally winged, with slightly concave auricles. Dissepiment of the ovary reaching to about the middle. Ovules variable in number, in 2 rows. Capsule ovoid, about 2 lines long.—*Cav. Ic.* t. 508; R. Br. Prod. 576; DC. Prod. vii. 514; De Vr. Gooden. 144; *G. teucriifolia*, *F. Muell. in Trans. Vict. Inst.* ii. 70.

Queensland. Glasshouse Mountains and Burnett river, *F. Mueller*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 228, and others; Newcastle, *Leichhardt*.

De Vries refers to *G. heterophylla*, the *G. pubescens*, *Sieb. Pl. Exs.* n. 178, DC. Prod. vii. 514. I have not seen the plant, but DC. says, "bracteis flori proximis," which would rather refer it to *G. rotundifolia*, if it be a *Goodenia* at all, and not *Scaevola microcarpa*, as suggested by *F. Mueller*.

25. *G. glabra*, *R. Br. Prod.* 577. A glabrous perennial, with a tufted stock, emitting several long simple prostrate stems, like stolons, but not

usually rooting. Radical leaves petiolate, from obovate to oblong-spathulate, rather thick, entire or minutely toothed, 1 to 3 in. long, those of the prostrate stems distant, sessile or nearly so, obovate or cuneate, rarely above $\frac{1}{2}$ in. long. Flowers solitary, either radical on long peduncles or axillary on shorter, sometimes very short ones. Bracteoles very small, at a distance from the flower when the peduncle is elongated. Calyx-lobes subulate-acuminate. Corolla yellow, the upper lobes separated low down and unequally winged, with a large inflexed auricle on the outer side. Dissepiment reaching to about the middle of the ovary. Capsule ovoid or oblong. Seeds rather large, flat, granular-tuberculate, with a rather thick smooth border.—DC. Prod. vii. 515; *G. flagellifera*, De Vr. in Mitch. Trop. Austr. 378, and Gooden. 146. t. 25.

Queensland. Shoalwater Bay, *R. Brown*; Port Curtis, *M. Gillivray*; Rockhampton, *Thozet*, *O'Shanesey*; Peak Downs, *F. Mueller*; Bokhara Creek, Ottey's Station, etc., *Leichhardt*; Armadillo, *W. Barton*.

26. ***G. stronglylophylla***, *F. Muell. Fragm.* vi. 12. The fragments upon which this species is founded appear to be procumbent or prostrate flagellate branches, like those of *G. glabra*, but densely hirsute with rather soft hairs. Leaves nearly sessile, very broadly ovate or orbicular, toothed, not exceeding $\frac{1}{2}$ in. diameter. Flowers axillary. Bracts subulate at the base of the very short pedicels. Calyx very villous, with narrow lobes. Corolla hairy outside, 5 or 6 lines long, the upper lobes separate low down and auriculate. Dissepiment reaching to about the middle of the ovary, with several ovules in 2 rows in each cell. Capsule ovoid, about 3 lines long. Seeds few, large, flat, with a thickish margin, rarely bordered by a narrow wing.

Queensland. Princhester Creek, *Bowman*.

27. ***G. rotundifolia***, *R. Br. Prod.* 576. A slightly pubescent or viscid perennial, the stems short and erect or long and trailing. Leaves petiolate, broadly ovate or orbicular, coarsely toothed, rounded or cordate at the base, $\frac{1}{2}$ to 1 in. diameter or sometimes more, those of the smaller branches sometimes obovate and narrowed at the base. Peduncles slender, shorter than or slightly exceeding the leaves, bearing 1 or more frequently a cyme of 3 to 5 flowers. Bracteoles very narrow, close under the flower when solitary. Calyx-tube hispid; lobes subulate, ciliate. Corolla pubescent outside, about $\frac{1}{2}$ in. long, the upper lobes separate low down and unequally winged. Dissepiment of the ovary very short or rarely reaching to the middle. Ovules several in 2 rows in each cell. Capsule broad, about 2 lines long. Seeds several, flat, with a smooth margin, not winged.—DC. Prod. vii. 514; De Vr. Gooden. 145.

Queensland. Shoalwater Bay, *R. Brown*; Brisbane river, Moreton Bay, *F. Mueller*, *Leichhardt*; Rockhampton, *Dallachy* and others.

N. S. Wales. Near Newcastle, *R. Brown*; Hunter's River, *Oldfield*; Clarence river, *Beckler*; New England, *C. Stuart* (the latter with larger flowers and capsules).

The new species in Banks's collection mentioned by Gaertn. fil. Fruct. iii. 163, under the name of *G. intermedia*, is in all probability *G. rotundifolia*.

SERIES 3. CÆRULEÆ. Peduncles axillary, bracteolate (except in *G.*
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Vilmoriniæ), 1-flowered or the lower ones loosely cymose. Flowers blue.

28. **G. azurea**, *F. Muell. Fragm.* i. 117. A glabrous glaucous undershrub of 1 to 2 ft., with rigid spreading branches. Lower leaves petiolate, obovate, sparingly toothed, 2 to 3 in. long; upper ones sessile, obovate ovate or oblong, very obtuse and entire, the uppermost under $\frac{1}{2}$ in. long. Peduncles axillary, rigid, longer than the leaves, 1-flowered or the lower ones bearing a cyme of 3 to 7 flowers. Bracteoles large, leafy, ovate or obovate. Calyx-tube glandular, lobes lanceolate. Corolla blue, 7 to 8 lines long, sparingly glandular-pubescent outside, with a saccate protuberance extending to the base of the calyx-tube, the upper lobes separate almost to the base, broadly winged on the outer side. Dissepiment of the ovary reaching far above the middle; ovules rather numerous, in 2 rows in each cell. Capsule 4 to 5 lines long. Seeds small, orbicular, flat, with a somewhat thickened margin.

N. Australia. Upper Victoria river and table land at the sources of Sturt's Creek, *F. Mueller.*

29. **G. scævolina**, *F. Muell. Fragm.* i. 118. An undershrub of 2 to 4 ft., viscid-pubescent or hirsute. Leaves obovate oblong or oblanceolate, acutely and coarsely toothed, narrowed at the base and often shortly decurrent, 2 to 3 in. long, the floral ones much smaller and less toothed or entire, the uppermost reduced to small bracts. Peduncles in the upper axils, bearing each a cyme of 3 to 7 flowers with leafy bracts at the forks, or the uppermost short and 1-flowered, forming a broadly pyramidal leafy viscid-villous panicle. Calyx-lobes linear-lanceolate. Corolla blue, $\frac{3}{4}$ to nearly 1 in. long, pubescent or almost hirsute outside, unilabiate (*F. Muell.*), but the upper (lateral) lobes separate lower down and unequally winged. Dissepiment reaching nearly to the top of the ovary; ovules rather numerous, in 2 rows. Capsule oblong, 4 to 6 lines long. Seeds flat, minutely granular, with a narrow smooth border.

N. Australia. Sandstone hills, upper Victoria river, *F. Mueller.*

30. **G. incana**, *R. Br. Prod.* 578. A tufted perennial, clothed all over with hoary or white woollen hairs, sometimes long and loose, sometimes short and close. Stems usually several, simple or nearly so, erect, 6 to 8 in. or rarely above 1 ft. high. Radical leaves petiolate, oblong-spathulate or oblanceolate, 1 to 2 in. high, stem-leaves smaller and linear or rarely lanceolate, all entire thick and soft. Peduncles axillary, 1-flowered, often all turned to one side, shorter or rarely longer than the leaves. Bracteoles linear, more or less distant from the flower. Calyx-lobes linear. Corolla blue, about $\frac{3}{4}$ in. long, pubescent or hirsute outside, the lobes all broadly and nearly equally winged, but the upper ones separated nearly to the base, and the outer wings fringed near the base. Anthers minutely pointed. Dissepiment of the ovary reaching far above the middle; ovules rather numerous, in 2 rows in each cell. Capsule ovoid or almost globular, about 3 lines long. Seeds flat, orbicular, bordered by a thin and irregular but sometimes broad wing.—*DC. Prod.* vii. 516; *De Vr. Gooden.* 152. t. 28; *F. Muell. Fragm.* iii. 141; *Scævola pterosperma*, *De Vr. in Pl. Preiss.* i. 408.

W. Australia. Lucky Bay, *R. Brown*; King George's Sound to Cape Riche, *Barter*; *Preiss.* n. 1449, 1501, also *Dumourol.* 1st Coll. (2nd Coll. n. 20, 3rd Coll. n. 155; Plantagenet and Stirling Ranges to Stokes and Moir's Inlets and Fitzgerald Ranges, *Maxwell*.

31. **G. leptoclada**, *Benth.* A glabrous or minutely pubescent perennial, with slender but rigid procumbent or ascending scarcely branched stems, not exceeding 6 in. in our specimens. Radical leaves petiolate, oblong-cuneate or oblanceolate, entire or with a few prominent teeth, often above 1 in. long; stem-leaves sessile, stem-clasping, ovate or oblong, under $\frac{1}{2}$ in. long or the lower ones rarely longer, all thick and coriaceous. Peduncles 1-flowered in the upper axils, much longer than the leaves, with a pair of linear bracteoles at some distance from the flower. Calyx-lobes linear, rather long. Corolla apparently blue, pubescent outside, about $\frac{1}{2}$ in. long, the 2 upper lobes deeply separated and rather unequally winged, but not auriculate. Dissipinment of the ovary very short; ovules few. Capsule small, ovoid or globular. Seeds very few, orbicular, rather large, not winged.

W. Australia, *Dumourol.* n. 188. The habit approaches that of *G. glabra* on a small scale, but the flowers appear to be blue, and the small stem-clasping leaves are very characteristic.

32. **G. cærulea**, *R. Br. Prod.* 378. A perennial, usually tufted, glabrous glandular-pubescent or rarely sprinkled with soft spreading hairs, the inflorescence or at least the calyx always glandular-pubescent. Stems usually several, angular, simple flexuose or branched, erect or ascending, often rigid, mostly $\frac{1}{2}$ to 1 ft. high. Leaves linear, rigid, the radical ones sometimes slightly dilated above the middle and rarely with 1 or 2 teeth, all the others quite entire, the upper ones small and almost terete. Peduncles axillary, often longer than the leaves, spreading and turned to one side. Bracteoles very small, usually about the middle. Flowers blue, rather large, like those of *G. incana*, but glabrous or slightly glandular-pubescent outside. Capsule of *G. incana*, the seeds (in the very few specimens in which they have been seen ripe) broadly but irregularly winged or sometimes almost without wings.—*DC. Prod.* vii. 515; *G. rigida*, *Benth.* in *Hueg. Enum.* 71; *DC. Prod.* vii. 516; *De Vr. Gooden.* 156; *Scævola tenera*, *De Vr.* in *Pl. Preiss.* i. 409, partly; *Goodenia pterygosperma*, *De Vr. Gooden.* 153, as to the King George's Sound and Swan River specimens, not of *R. Br.*; *G. teretifolia*, *De Vr. Gooden.* 130; *G. Barilletii*, *F. Muell. Fragm.* iii. 140.

W. Australia. King George's Sound and adjoining districts, *R. Brown, Barter* and others; thence to Swan River, *Herget, Dumourol.* n. 395 and 2nd Coll. n. 297, *Preiss.* n. 1462, and Murchison river, *Oldfield*; eastward to Stokes Inlet, *Maxwell*.

The northern specimens are taller and more slender than the southern ones, but do not otherwise appear different.

33. **G. trichophylla**, *De Vr. in Herb. Hook.* A perennial, glabrous except the calyx, with a tufted stock and erect simple or branched stems of $\frac{1}{2}$ to 1 ft., like *G. cærulea*, but very much more slender. Leaves very narrow-linear, the radical ones 2 to 4 in. long, dilated at the base, the stem ones almost filiform. Flowers small, on filiform pedicels longer than the leaves. Bracteoles minute, at a distance from the flowers or obsolete. Calyx slightly glandular-pubescent, $1\frac{1}{2}$ lines long, the lobes linear, acute. Corolla (of a

purplish-blue?) 4 to 5 lines long, glabrous or slightly glandular-pubescent outside, the lobes all nearly equally winged, but the upper ones separated much lower down. Dissepiment of the ovary reaching to above the middle; ovules several, in 2 rows in each cell. Capsule ovoid-oblong, small, but not seen ripe. Seeds orbicular, flat.

W. Australia, *Drummond*, 2nd Coll. n. 407, 3rd Coll. n. 158.

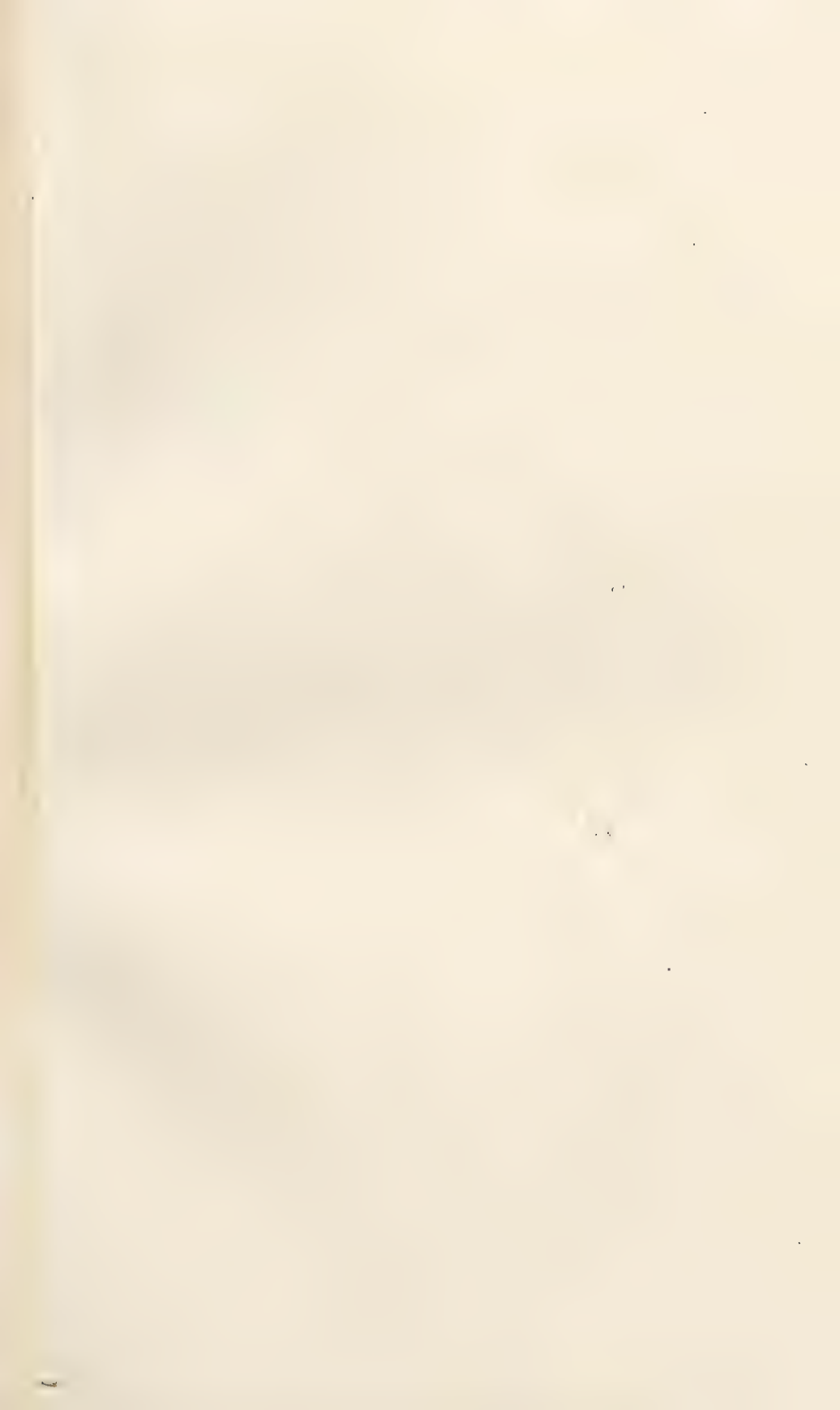
34. *G. Hassallii*, *F. Muell. Fragm.* vi. 10. t. 51. A perennial, quite glabrous, except sometimes a little wool in the axils; the stems erect, branching, leafy, about 1 ft. high, often several together, but not forming a tufted stock like *G. carulea*, and the radical leaves not leaving the broad persistent bases of that species and its allies. Leaves linear or lanceolate, entire or with a few distant teeth or lobes, often 2 to 3 in. long, the upper floral ones much smaller and narrow-linear. Peduncles rarely exceeding the floral leaves or bracts, 1-flowered or rarely the lower ones 2- or 3-flowered. Bracteoles linear terete, at a distance from the flower. Calyx-lobes lanceolate, acute. Corolla blue, 6 to 7 lines long, glabrous or sprinkled with a few hairs outside, the lobes all broadly and nearly equally winged, but the upper ones separated nearly to the base. Dissepiment of the ovary reaching to above the middle; ovules several, in 2 rows in each cell. Capsule ovoid-oblong, about 3 lines long. Seeds flat, bordered by a smooth margin, but not at all or very narrowly winged.

W. Australia, *Drummond*.

35. *G. pterigosperma*, *R. Br. Prod.* 578. A glabrous perennial, with a tufted stock, and usually numerous, erect, scarcely branched stems of 1 ft. or more. Radical leaves and a few at the base of the stems petiolate, linear or linear-lanceolate, often 2 in. long or more, thick, bordered by a few small, distant teeth or entire, the other leaves few, small, and distant. Flowers of a deep blue, terminal or on long peduncles in the upper axils. Bracteoles very small and obtuse, at a distance from the flower. Calyx quite glabrous, the lobes linear and obtuse, shorter or scarcely longer than the tube. Corolla about $\frac{1}{2}$ in. long, quite glabrous outside or rarely sprinkled with a few hairs, the lobes all broadly winged, and separated very low down, the 2 upper ones almost to the base, with the outer wings descending quite to the base. Dissepiment of the ovary reaching to above the middle; ovules several, in 2 rows in each cell. Capsule ovoid or globular, 2 to 3 lines long. Seeds broadly winged.—*DC. Prod.* vii. 515; *De Vr. Gooden.* 153, partially; *G. cyanea*, *F. Muell. Fragm.* i. 155.

W. Australia. Lucky Bay, *R. Brown*, and thence eastward to Stokes Inlet, Cape le Grand, Phillips Range, etc., *Marwell*.

36. *G. Vilmoriniæ*, *F. Muell. Fragm.* iii. 19. t. 16. An erect herb, with a few woolly hairs in the lower part, especially about the axils, the inflorescence glandular-pubescent. Leaves linear, entire, 2 to 4 in. long, the floral ones much shorter. Peduncles axillary, longer than the leaves, 1-flowered, without bracteoles. Calyx-lobes rather short. Corolla blue (*F. Muell.*), 7 to 8 lines long, glandular-pubescent outside; lobes broadly winged, the 2 upper ones separated lower down, and with a concave auricle





F. Schoenfeld del. & lith.

W. J. Hooker sculp.

W. J. Hooker sculp.

Goodenia Bonneyana W. J. Hooker



F. M. Mueller

F. Mueller direct

H. G. De Gruchy & Co imp

Goodenia Hassallii F. M.



Edwin Beck del & lith.

Ladd & Carr imp.

Goodenia Nicholsonii. F.M. V.



Schoenfeld del. & lith.

F. M. Macmillan.

Goodenia Macmillani.

Goodenia Macmillani N. & M.

at the base of the wing on the outer side. Dissepiment of the ovary reaching to above the middle. Ovules rather numerous, in 2 rows in each cell. Ripe capsule not seen; young seeds with rather broad wings.

N. Australia. Between Bonney river and Mount Morphet, *M'Donnell Stuart* (Herb. *F. Mueller*).

G. Bonneyana, *F. Muell. Fragm.* t. 53, is, as far as I am aware of, as yet undescribed, and I find no specimen in *F. Mueller's* collection. From the plate it appears only to differ from *G. Vilmorinæ* in being more hairy, and in having long, linear bracteoles.

SERIES IV. FOLIOSÆ.—Erect or rarely decumbent herbs or undershrubs, usually glandular-pubescent or hirsute, with leafy stems. Peduncles axillary, 1-flowered, articulate under the flower, without bracteoles or very rarely a few peduncles have 1 or 2 minute ones. Flowers yellow white or purple.

The hollow protuberance at the base of the corolla-tube is more conspicuous in several of the species of this series than in the others, and sometimes forms a more or less prominent spur as in *Velleia*.

37. *G. calcarata*, *F. Muell. Fragm.* vi. 14. An erect, rather stout, glabrous, and often glaucous annual of $\frac{1}{2}$ to 1 ft., the stem very angular. Leaves deeply pinnatifid, with ovate-oblong or lanceolate, deeply-toothed segments, the terminal one sometimes large and the others small or all more nearly of a size, the upper floral leaves reduced to small bracts. Peduncles solitary in the axils, forming a terminal raceme. Bracteoles none or very minute under the flowers. Calyx and corolla nearly those of *G. grandiflora*, but the hollow protuberance of the adnate part produced into a small spur. Capsule ovate, 4 to 5 lines long. Seeds of *G. grandiflora*.—*Pterophyta calcarata*, *F. Muell. in Linnæa*, xxv. 422.

N. S. Wales. Between the Darling river and the Barrier Range, *Pantao*.

S. Australia. Stony declivities near Cudnaka, *F. Mueller*; Lake Gillies, *Buckitt*.

38. *G. Nicholsoni*, *F. Muell. Fragm.* i. 203. t. 4. A shrub or undershrub, softly but minutely glandular-pubescent or tomentose, very closely allied to the pinnate-leaved state of *G. grandiflora*, differing only in the terminal lobe of the leaves being more emarginate and lobed at the base, not cordate, and the bracteoles more frequently present, either at the base of the peduncles or higher up, although many peduncles are entirely without. Flowers of *G. grandiflora* or the wings of the corolla-lobes rather narrower, the hollow protuberance is prominent in some flowers, inconspicuous in others.

S. Australia. N.W. interior, *M'Donnell Stuart's Expedition*. Probably a variety only of *G. grandiflora*.

39. *G. Macmillani*, *F. Muell. Fragm.* i. 119. t. 5. Very closely allied to *G. grandiflora*, and perhaps a variety, with the same stature, inflorescence, and size and structure of the flowers and fruit, but the leaves are more decidedly lyrate, with several segments, the terminal one larger, but not so much so as in *G. grandiflora*, and the flowers are purple.

Victoria. Schistose valleys of the Macalister river, *F. Mueller*.

40. *G. grandiflora*, *Sims; Bot. Mag.* t. 890. Herbaceous, erect.

rather stout, more or less glandular-pubescent, attaining sometimes 3 or 4 ft. Leaves petiolate, from broadly ovate to ovate lanceolate, truncate or cordate at the base, toothed, often above 2 in. long, with or without the addition of a few small segments along the petiole. Peduncles axillary, shorter than the leaves, 1-flowered, without any or with very minute bracteoles at the base, solitary or the lower ones sometimes 2 or 3 together on a very short, common peduncle. Flowers large, yellow, more or less streaked with purple. Calyxlobes linear-lanceolate. Corolla glabrous or slightly pubescent outside, usually about 1 in. long but sometimes larger, the 2 upper lobes more deeply separated, the adnate part of the tube with a hollow protuberance, sometimes scarcely conspicuous, sometimes very prominent and reaching to the base of the calyx. Dissepiment of the ovary reaching far above the middle; ovules in 2 rows in each cell. Capsule ovoid-oblong, sometimes $\frac{1}{2}$ in. long, but often smaller. Seeds broad, flat, with a thickish margin, not winged.—R. Br. Prod. 576; DC. Prod. vii. 514; Bonpl. Jard. Malin. t. 6; Bot. Rec. 1845. t. 29; De Vr. Gooden. 143; F. Muell. Fragm. i. 204; *G. appendiculata*, Jacq. Fragn. t. 92.

Queensland. Broad Sound, *R. Brown*; Wide Bay, *Baldell*; Barnett and Bardekin rivers, *F. Mueller*; Rockhampton, *Dallachy* and others.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; Richmond river, *Fawcett*; Macleay and Clarence rivers, *Beckler*.

S. (or N. ?) Australia. Mount Freeling, Central Australia, *M. Douall Stuart's Expedition*.

G. mollis, R. Br. Prod. 577; DC. Prod. vii. 515; De Vr. Gooden. 151, is a variety, or, perhaps, a state of the plant, with rather shorter capsules, and no small leaf-segments along the petiole. To this form belong the majority, but not all, of the Queensland specimens, and a few of the N. S. Wales ones.

41. ***G. Chambersii***, *F. Muell. Fragn. i. 204*. A shrub or undershrub, softly but minutely glandular-pubescent, very closely allied to *G. grandiflora*, and, judging from the fragmentary specimens preserved, perhaps a variety. Leaves smaller on shorter petioles, orbicular, coarsely toothed, $\frac{1}{2}$ to $\frac{3}{4}$ in. diameter in our specimens, and without accessory segments. Flowers rather smaller than in *G. grandiflora*, the lobes rather narrower, and the upper ones less deeply separated than in that species, but the structure otherwise the same, and the saccate protuberance prominent.

S. (or N. ?) Australia. Mount Freeling, *M'Douall Stuart's Expedition*.

42. ***G. albiflora***, *Schlecht. Linnaea*, xx. 599. An erect, glabrous perennial, with a thick, almost woody rootstock; stems angular, 1 ft. high or more. Leaves ovate-lanceolate or lanceolate, acutely toothed, $1\frac{1}{2}$ to 3 in. long, narrowed into a petiole without accessory lobes, the upper floral ones very much smaller, soon passing into lanceolate, entire bracts. Flowers entirely of *G. grandiflora*, but white, and forming more of a terminal, leafy raceme, the saccate protuberance of the corolla-tube at least as prominent as in *G. grandiflora*.—*Picrophyta albiflora*, *F. Muell. in Linnaea*, xxv. 421.

S. Australia. Gawler river, *Bohe*; common in dry, gravelly beds of streams, St. Vincent's Gulf, Encounter and Holdfast Bays, etc., more rare at the base of Lofty Range, *F. Mueller*.

43. ***G. Strangfordii***, *F. Muell. Fragn. vi. 11. t. 52*. A perennial,



P. Schönfeld del & lith

F. Mueller direct

H.C. Deane sculp.

Goodenia Strangfordii F. M. V.

simple or branching, and almost woody at the base, more or less pale-cream or almost silky, with a little wool in the axils of the leaves, the stems erect, leafy, under 1 ft. high. Leaves rather crowded, lanceolate, entire, 3 to 4 in. long, narrowed into a petiole. Peduncles slender, shorter than the leaves, 1-flowered, without bractcoles or rarely 2 linear bractcoles on the lower ones as represented in the plate, the flower readily disarticulating from the peduncle as in most of the ebracteolate species. Calyx-lobes linear. Corolla silky, pubescent outside, 7 to 8 lines long in most specimens, the upper lobes deeply separated, rather short, broadly auriculate. Dissepiment of the ovary reaching above the middle; ovules rather numerous. Seeds orbicular, flat, not winged.

N. Australia. Upper Victoria river, *F. Mueller*; Elsey's Creek, *Herb. F. Mueller*.

Var. *grandiflora*. Flowers much larger, the lower peduncles long, with 2, long, linear bractcoles.—Flinders river, *Kennedy (Herb. F. Muell.)*. This is the form figured.

44. **G. Mitchellii**, *Benth.* A densely villous-tomentose, rather coarse perennial, with decumbent or ascending stems, under 1 ft. in our specimens. Radical and lower leaves on long petioles, obovate-oblong, coarsely toothed or almost pinnatifid, thick and soft, 2 to 3 in. long, the upper ones small, the uppermost floral ones scarcely $\frac{1}{2}$ in. long, but all more or less petiolate. Peduncles 1-flowered, without bractcoles. Calyx-lobes narrow-linear. Corolla about $\frac{3}{4}$ in. long, apparently yellow, hirsute outside, the upper lobes rather shorter, separated almost to the base, with concave auricles, the tube with a small, concave protuberance, forming a minute spur at the base of the calyx. Dissepiment of the ovary exceedingly short; ovules few. Capsule globular, about 3 lines diameter. Seeds usually 1 or 2 only perfect, large, flat, with a broad, thick margin, not winged.

Queensland. In the interior, *Mitchell*. The precise station not given.

45. **G. heterochila**, *F. Muell. Fragm.* iii. 142. Herbaceous, softly pubescent or villous. Leaves oval-oblong or lanceolate, entire or toothed, 1 to 2 in. long, contracted at the base, the lower ones not seen. Peduncles 1-flowered, axillary, slender, shorter than the leaves, articulate under the flower. Bractcoles none or very minute. Calyx-lobes linear or setaceous. Corolla under $\frac{1}{2}$ in. long, the 3 lower lobes winged and truncate, the 2 upper ones separate lower down and shorter, narrow-lanceolate, acute, scarcely winged, but with an auricle on the outer side below the middle. Dissepiment of the ovary very short; ovules 4 or 5, large and flat.

N. Australia. Newcastle water and Burke river, *McDonall Stuart's Expedition*.

Var. *foliosa*. Stoutier and more hirsute. Stems decumbent or erect, under 1 ft. high. Leaves rather larger than the other form, and the lobes of the corolla less dissimilar.—Victoria river, *F. Mueller*.

Var. *racemosa*. Apparently annual and very hirsute, the upper peduncles longer than the very small floral leaves, the lobes of the corolla less dissimilar than in the typical specimens.—Camden Harbour, N.W. Australia, *Herb. F. Mueller*.

Var. *uncinata*. Leaves deeply toothed or pinnatifid, otherwise like the typical form.—Arnhem's Land, *F. Mueller*.

The specimens of all the above forms, as well as of those included under the 2 following species (*G. sepulchra* and *G. hispida*) are too few and too imperfect to judge of their value as species or varieties. Amongst them is probably included *G. melanoptera*, *F. Muell. Fragm.*

i. 115, from Victoria river, which I have been unable to identify satisfactorily, and I find no specimens so named in his collections.

46. **G. sepalosa**, *F. Muell. Herb.* A low, branching, hispid or viscid-villous herb, apparently perennial, but flowering the first year, the stems decumbent or erect, not attaining 1 ft. in any specimens seen. Leaves oblong lanceolate or oblong-linear, coarsely and irregularly toothed or rarely entire, shortly petiolate or the upper ones only contracted at the base, the larger ones 2 to 3 in. long. Peduncles 1-flowered, axillary, without bracteoles, in some specimens very short, in others at least as long as the leaves. Calyx-lobes more or less lanceolate and leafy, acuminate. Corolla yellow, hairy outside, $\frac{3}{4}$ to 1 in. long, the lobes broadly winged, the 2 upper ones separate almost to the base, the wings unequal, the outer one almost auriculate. Dissepiment of the ovary exceedingly short, almost rudimentary. Capsule globular. Seeds few, flat, granular-tuberculate, with a narrow, smooth margin.

N. Australia. N.W. coast, *Bynoe*; Camden Harbour, *Martin*; Port Essington, *Armstrong*. *F. Mueller*, *Fragm.* vi. 12, refers this species to *G. hispida*; but the general aspect, as well as the more toothed, broader, usually more petiolate leaves and broader calyx-lobes appear to me too different to warrant the union without better specimens, most of those preserved being little more than fragmentary. The fragment alluded to by *F. Mueller*, as gathered by Kennedy on the Flinders river, has much more of the foliage, but not the indumentum of *G. hispida*.

Var. brachypoda, *F. Muell. Herb.* Much-branched and very leafy, the upper leaves small. Flowers small (the corolla about $\frac{1}{2}$ in. long), on very short peduncles or almost sessile.—Victoria river, *F. Mueller*.

47. **G. hispida**, *R. Br. Prod.* 577. Apparently annual, hispid with rigid spreading hairs, which almost disappear from the old plants. Stems slender, erect, branching, $\frac{1}{2}$ to 1 ft. long or rarely more. Radical leaves sometimes oblong and narrowed into a short petiole, all the others sessile, linear or narrow-lanceolate, 1 to 2 in. long, entire or with a very few acute prominent teeth, especially near the base. Peduncles in the upper axils often longer than the leaves, without bracteoles. Calyx-lobes subulate. Corolla hairy outside, about $\frac{1}{2}$ in. long, the 2 upper lobes separated low down. Capsule globular or ovoid. Dissepiment exceedingly short. Seeds flat, not winged.—*DC. Prod.* vii. 515; *De Vr. Gooden.* 133.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; Copeland Island, *A. Cunningham*; Bowen's Straits, Port Essington, *Armstrong*. These specimens are much less hispid than Brown's, but much older and more elongated and probably belong to the same species.

48. **G. auriculata**, *Benth.* Apparently annual, sprinkled with spreading hairs or nearly glabrous. Stems weak, 1 ft. long or more. Lower leaves unknown; floral leaves ovate-lanceolate, entire, cordate, sessile and stem-clasping with broad auricles. Peduncles 1-flowered, much longer than the leaves, without bracteoles. Flowers rather large, yellow. Calyx hispid, with linear acuminate lobes. Corolla $\frac{7}{8}$ in. long, pubescent outside. Dissepiment of the ovary exceedingly short. Capsule nearly globular. Seeds few, oval-oblong, flat, granular-tuberculate, with a somewhat thickened smooth border, not winged.

N. Australia. Depot Creek, Upper Victoria river, *F. Mueller*. As far as shown by .

the specimens, this species appears to be more nearly allied to *G. Armstrongiana* than to *G. hispida*, but the broad auriculate floral leaves are different from those of either.

49. **G. Armstrongiana**, *De. Fr. Gooden.* 138. t. 24. Apparently annual, glabrous or sprinkled with soft hairs. Stems slender, leafy, erect or flexuose, 1 to 2 ft. long. Leaves sessile and stem-clasping, the lower ones ovate and sometimes bordered by a few small teeth, the upper ones quite entire, lanceolate, more or less decurrent along the stem. Peduncles filiform, axillary, longer than the leaves, without bracteoles. Flowers small, yellow. Calyx-lobes setaceous. Corolla not $\frac{1}{2}$ in. long, glabrous or with a few rigid hairs outside, the lobes broadly winged. Capsule ovoid, about 3 lines long, the dissepiment reaching above the middle. Seeds flat, granular-rugose, with a rather thick smooth margin.

N. Australia, *R. Brown Herb.* (an imperfect specimen, without the precise station), Port Essington, *Armstrong*; Victoria river and grassy flats between Providence Hill and Macadam Range, *F. Mueller*.

50. **G. corynocarpa**, *F. Muell. Fragm.* ii. 16. Herbaceous and glabrous or sprinkled with appressed silky hairs. Stems ascending, sometimes above 2 ft. high. Leaves petiolate, ovate-lanceolate oblong or lanceolate, the radical ones sometimes many inches long and coarsely toothed, the stem ones smaller and distant, the upper floral ones reduced to small sessile bracts. Peduncles axillary, 1-flowered, forming a long loose leafy raceme. Bracteoles none or minute and close under the flower. Calyx-tube cylindrical, longer than the setaceous lobes. Corolla (yellow?) 7 to 8 lines long, very silky-hairy outside, the upper lobes separated lower down, with a broad concave auricle. Style usually very short. Dissepiment of the ovary reaching far above the middle. Capsule linear, about $\frac{1}{2}$ in. long in the common form. Seeds almost in a single row in each cell, flat, black, minutely granulate, with a paler coloured smooth border.

W. Australia. Murchison river, *Oldfield*. The inflorescence and the linear capsule give this species a very distinct aspect.

Var. *macrocarpa*. Bracteoles conspicuous, although very small. Capsule about 1 in. long.—Between Moore and Murchison rivers, *Drummond*, 6th Coll. n. 146.

SERIES 5. PEDICELLOSE. Herbs with leaves chiefly radical or tufted, the stem-leaves either few and distant or collected in terminal tufts, rarely scattered and linear or reduced to small bracts. Peduncles long, radical or in terminal tufts or axillary, 1-flowered, usually articulate under the flower, without bracteoles or rarely here and there with very minute ones.

51. ? **G. mollissima**, *F. Muell. Herb.* A small plant, very villous all over with soft hairs. Radical leaves petiolate, obovate, deeply crenate, 1 to $1\frac{1}{2}$ in. long. Stems short, decumbent, with a few small almost sessile orbicular or obovate leaves. Peduncles axillary, rather longer than the leaves, 1-flowered, without bracteoles. Flowers rather large, yellow. Calyx hispid, the lobes narrow and acute. Corolla pubescent outside, 7 to 8 lines long. Dissepiment of the ovary reaching far above the middle. Ovules numerous. Fruit not seen.

Queensland. Near Cooper's Creek, *Bowman*. Although the specimens are not de-

veloped enough to fix the affinities of this plant, it appears to be a very distinct species, differing from *G. lanata* in the absence of bracteoles, from *G. cycloptera* in the ovary.

52. **G. cycloptera**, *R. Br. in App. Sturt, Exped.* 20. Annual or with a perennial tufted or creeping rootstock, tomentose-pubescent or softly villous and often glandular. Radical leaves on long petioles, obovate or oblong, coarsely toothed, 1 to 2 or even 3 in. long. Stems either very short and erect or decumbent, or ascending and from 6 in. to 1 ft. long, with a few leaves usually crowded towards the end or scattered when the stems are much lengthened, all smaller, narrower, and more entire than the radical ones and nearly sessile. Peduncles in the upper axils or terminal tufts, 1-flowered, without bracteoles or rarely with very minute ones. Calyx hirsute, the lobes narrow. Corolla yellow, pubescent outside, 6 or 7 lines long, the tube sometimes forming a minute spur at the base of the calyx, the 2 upper lobes deeply separated, unequally winged and auriculate. Dissepiment of the ovary very short or almost rudimentary, with few ovules. Capsule orbicular or shortly ovate. Seeds large, orbicular, flat, usually black with a paler coloured rather thick marginal wing.

N. S. Wales. Darling river, *Dallachy, Mrs. Ford*; thence to the Lachlan, *Barkitt, Victorian Expedition*.

S. Australia. Scrub to the N.E. of Lake Gairdner, *Babbage*; Spencer's Gulf, *Warburton*. I have not seen Sturt's specimens described by Brown, but his character leaves no doubt as to the identity.

53. **G. tenella**, *R. Br. Prod.* 577. A small slender plant, appearing sometimes annual but evidently stoloniferous, glabrous or sprinkled with a few hairs and with a little wool in the axils of the leaves. Leaves radical or rosulate, ovate oblong or oblanceolate, entire or obscurely crenate, $\frac{1}{4}$ to $\frac{1}{2}$ in. long, besides the petiole. Peduncles filiform without bracteoles, 1-flowered, and longer than the leaves or sometimes bearing a tuft or umbel of pedicels, with a few leaves narrower than the radical ones. Flowers very small, yellow. Calyx-lobes linear. Corolla hairy outside, about 3 lines long, the upper lobes deeply separated and all broadly winged. Dissepiment of the ovary exceedingly short; ovules few. Capsule ovoid, about 2 lines long. Seeds few, large, flat, granular-tuberculate, with a rather broad smooth border, but not winged.—*DC. Prod.* vii. 515; *De Vr. Gooden.* 150.

W. Australia. King George's Sound, *Bauer, Drummond*, n. 184.

Var. *major*. Larger in every part, the leaves $\frac{1}{2}$ to 1 in. long, and the flowers larger.—Muddy bed of Don river, *Maxwell*; Karri Dale, *Herb. F. Mueller*.

Scevola pusilla, *De Vr. in Pl. Pr.* i. 412 or *Goodenia pusilla*, *De Vr. Gooden.* 131, from Plantagenet district, *Preiss*, n. 1170, which I have not seen, appears from the description to be the same as *G. tenella*.

54. **G. elongata**, *Labill. Pl. Nov. Holl.* i. 52. t. 75. A perennial, sprinkled with simple appressed or spreading hairs or rarely glabrous, the rootstock tufted or slender and creeping. Radical leaves on long petioles, obovate or oblong-spathulate, entire or obscurely sinuate-toothed. Stems sometimes very short, but usually ascending or erect and weak, $\frac{1}{2}$ to above 1 ft. long, with a few distant oblong or lanceolate nearly sessile leaves. Peduncles 1-flowered, without bracteoles, long and slender, sometimes scape-like amongst the radical leaves, but mostly in the axils of the stem-leaves.

Flowers rather large, yellow. Calyx-lobes linear or linear-lanceolate. Corolla 7 to 9 lines long, the 2 upper lobes deeply separated, the wings unequal, with a concave auricle on the outer side. Dissepiment usually about half as long as the ovary but variable, with 4 to 6 ovules in each cell. Indusium usually hairy. Capsule ovoid, about 3 lines long. Seeds not so flat as in most species, the border scarcely prominent and not winged.—R. Br. Prod. 577; DC. Prod. vii. 515; De Vr. Gooden. 148 (as to Brown's plant, but not the western one associated with it, which is *G. filiformis*); Hook. f. Fl. Tasm. i. 232.

Victoria. Owens river, Buffalo Range, Dandenong mountains, *F. Mueller*.

Tasmania. Port Dalrymple, *R. Brown*; not uncommon in marshy soil in various parts of the colony, *J. D. Hooker*.

55. **G. pinnatifida**, *Schlecht. Linnaea*, xxi. 440. A perennial, sprinkled with appressed hairs or nearly glabrous, the rootstock tufted or creeping. Radical leaves petiolate, oblong-spathulate or narrow, deeply toothed or pinnatifid or a few of the outermost obovate and crenate, often 2 to 3 in. long. Stems ascending or erect, $\frac{1}{2}$ to 1 ft. long, with narrow entire or pinnatifid leaves, few and distant or sometimes clustered at the ends of the stems. Peduncles very long, axillary, 1-flowered, without bracteoles or rarely with very minute ones at the base. Flowers rather large, yellow. Calyx-lobes linear or linear-lanceolate. Corolla sprinkled with rigid appressed hairs, $\frac{1}{2}$ to $\frac{3}{4}$ in. long in the smaller forms, $\frac{3}{4}$ to 1 in. in the larger ones, the lower lobes often ciliate below the wings, the upper ones deeply separated, with a broad concave auricle on the outer side. Dissepiment of the ovary short, but the ovules rather numerous. Capsule nearly orbicular, 3 to 4 lines long. Seeds few, large, very flat, black with a lighter-coloured border.

N. S. Wales. Darling and Lachlan rivers, *Burkitt*, and thence to the Barrier Range, *Victorian and other Expeditions*; Nangus, *Macarthur*; New England, *C. Stuart*; Manilla river, *Leichhardt*; Darling Downs, *Law*.

Victoria. Common on the Yarra, Forest Creek, towards Bacchus Marsh, *F. Mueller* and others; Wimmera, *Dallachy*.

S. Australia. Holdfast Bay and Flinders Range, *F. Mueller*; Port Lincoln, *Wilhelmi*.

56. **G. coronopifolia**, *R. Br. Prod.* 577. Apparently annual although tufted, glabrous except a few long hairs towards the base of the leaves. Radical leaves linear, pinnatifid with linear lobes or rarely nearly entire, $1\frac{1}{2}$ to 3 in. long. Stems slender, erect or ascending, $\frac{1}{2}$ to nearly 1 ft. high, sometimes almost filiform, with a very few distant linear leaves. Peduncles 1-flowered, long and slender, without bracteoles. Flowers small, yellow (*R. Brown*), but assuming a purplish hue when dry. Calyx-lobes linear, short. Corolla glabrous outside, 3 to 4 lines long, the 2 upper lobes deeply separated and with broad auricles on the outer side. Dissepiment of the ovary short. Capsule orbicular or ovoid. Seeds few, large, flat, broadly winged.—DC. Prod. vii. 515; De Vr. Gooden. 149 (as to Brown's plant, but not Mitchell's nor the New Zealand one associated with it).

N. Australia. Cambridge Gulf, N.W. coast, *A. Cunningham*; islands of the Gulf of Carpentaria, *R. Brown*.

57. *G. heteromera*, *F. Muell. Fragm.* i. 115. A glabrous or sparingly pubescent perennial, with a tufted stock emitting stems or stolons at first sometimes erect but usually prostrate, and all leafless except a terminal tuft, which often roots and becomes a new plant. Leaves radical or in the terminal tufts, petiolate, linear-spathulate or narrow-oblong, entire or rarely pinnatifid, often several inches long. Peduncles or scapes 1-flowered, slender, rarely as long as the leaves, without bracteoles or rarely with very minute ones at the base. Calyx-lobes variable, usually unequal. Corolla yellow, glabrous or hairy outside, under $\frac{1}{2}$ in. long. Dissepiment of the ovary reaching above the middle. Capsule obovoid, about 3 lines long. Seeds several, flat, winged.

Queensland? In the interior, *Mitchell*.

N. S. Wales. Gwydir river, *Leichhardt*; Darling river, *Victorian and other Expeditions*.

Victoria. Murray and Avoca rivers, *F. Mueller*.

58. *G. concinna*, *Benth.* A perennial, either glabrous or sprinkled with appressed hairs or the inflorescence sometimes glandular-pubescent. Leaves radical or crowded on the short simple stock, petiolate, linear or linear-lanceolate, entire, 2 to 3 in. long. Scapes or flowering branches erect, $\frac{1}{2}$ to nearly 1 ft. high, leafless or with 1 or 2 filiform leaves, besides small bracts under the peduncles. Flowers yellow, rather larger than in *G. filiformis*, on slender peduncles without bracteoles, the upper ones sometimes almost umbellate. Calyx-tube scarcely any, the lobes linear, adnate at the base. Corolla glabrous outside or slightly glandular, fully $\frac{1}{2}$ in. long, the adnate tube with a slight saccate protuberance, the lobes broadly winged, the 2 upper ones unequally so and separated low down. Dissepiment of the ovary reaching far above the middle; ovules numerous in 2 rows. Capsule ovoid-oblong, 2 to 3 lines long. Seeds flat, granular-tuberculate, with a rather broad smooth margin, but not winged.

W. Australia, *Deamond*, n. 360; Point Henry, *Oldfield*; E. Mount Barron, *Eyre's Relief*, Phillips and Fitzgerald Ranges, *Maxwell*.

59. *G. glauca*, *F. Muell. in Trans. Vict. Inst.* 1855, 40. A perennial, glabrous and glaucous in the typical form, silky-hairy in a common variety, with a slender creeping rootstock and ascending or erect stems, scarcely exceeding 6 in. in most specimens, sometimes densely tufted. Radical leaves oblong-lanceolate or linear-lanceolate, entire or rarely with a few prominent teeth, 1 to 3 in. long; stem-leaves linear or linear-lanceolate, entire. Peduncles 1-flowered, longer than the leaves, without bracteoles. Flowers rather large, yellow. Calyx-lobes narrow, acute. Corolla nearly glabrous outside, nearly $\frac{3}{4}$ in. long, the 2 upper lobes separate low down, unequally winged and auriculate. Dissepiment of the ovary short. Indusium glabrous. Capsule globular, about 3 lines long. Seeds few, large, flat, with a broad not very thin wing.

N. Australia. Sturt's Creek, *F. Mueller*.

Queensland. In the interior, *Mitchell*; plains of the Condamine, *Leichhardt*; Dawson river, *F. Mueller*; Armadillo, *W. Barton*.

N. S. Wales. Liverpool plains, *Leichhardt*; Darling river to the Barrier Range, *Victorian and other Expeditions*.

Victoria. Murray and Avoca rivers, *F. Mueller*.

S. Australia. Murray river, *F. Mueller*; Lake Torrens to Wills' and Cooper's Creeks, *Howitt's Expedition*.

W. Australia? Stokes Inlet, *Marshall*. A single small specimen (in Herb. *F. Muell.*) with large flowers appears to be this species, but insufficient for positive identification.

This species has usually the large flowers of *G. elongata* and *G. pinnatifida*, from which it may be readily distinguished by the glabrous indusium, as pointed out by *F. Mueller*, as well as by the narrow leaves. It is very nearly allied to *G. coronopifolia*, differing chiefly in the large flowers. Some forms of the western *G. filiformis* come also very near to it, but besides the small flowers the seeds in that species are rarely winged and then irregularly so.

Var. *sericea*. Clothed all over or sprinkled with silky hairs. To this belong the northern and most of the N. S. Wales specimens.

Var. *glandulosa*. More or less glandular-pubescent. Darling river, *Dallachy*; Goyinga mountains, *Victorian Expedition*.

60. **G. filiformis**, *R. Br. Prod.* 578. A slender annual or tufted perennial, glabrous or sprinkled with a few hairs in the typical form, the inflorescence sometimes glandular, and occasionally a little wool in the axils. Leaves in the typical form linear or filiform, but in some varieties more or less lanceolate, especially the radical ones, which are often 2 to 3 in. long, the stem ones few and smaller, all entire. Flowering stems ascending or erect, $\frac{1}{2}$ to 1 ft. long or more, sometimes ending in an umbel-like tuft of leaves and peduncles. Flowers yellow, usually small. Peduncles 1-flowered, filiform, without bracteoles. Calyx-lobes linear. Corolla glabrous outside, rarely above $\frac{1}{2}$ in. long, the adnate part of the tube with a hollow protuberance sometimes forming a short spur at the base of the calyx, the lobes all broadly winged, the 2 upper ones separated low down. Dissepiment short; ovules not numerous. Capsule small. Seeds few, orbicular, with broad margins, sometimes irregularly winged.—*DC. Prod.* vii. 515; *De Vr. Gooden.* 134, but with a wrong station; *Scævola umbellata*, *De Vr. in Pl. Preiss.* i. 411; *Aillya umbellata*, *De Vr. Gooden.* 76. t. 13; *G. elongata*, *De Vr. in Pl. Preiss.* i. 412, not of *Labill.*

W. Australia. King George's Sound, *R. Brown, Baxter*, and thence to Swan River, *Drummond*, n. 401, *Preiss*, n. 1428, 1429, 1430, 1435, 1450; Tone, Blackwood, and Murchison rivers, *Oldfield*; *Warrenup, Marshall*.

Var. *pulchella*. Glabrous, softly hairy or hispid. Leaves linear-spathulate or lanceolate. *G. pulchella*, *Benth. in Hueg. Enum.* 71; *DC. Prod.* vii. 515; *Velleia lanceolata*, *Lindl.* Swan Riv. App. 26; *De Vr. Gooden.* 175 (partly, for the specimens referred to in that work, and named *V. lanceolata* by *De Vriese* in the herbaria quoted, belong to eight different species, viz., *Goodenia cycloptera*, *G. glauca*, *G. hispida*, *G. filiformis*, *Catogyne Berardiana*, *Velleia cyenopotamica*, *Stylidium leptorhizon*, and *Vandellia pubescens*). The var. *pulchella* appears to be fully as common as the filiform one, and to pass gradually into it. *Drummond's* specimens, n. 185, are remarkably hirsute; his n. 408 has very small flowers, but the specimens are imperfect.

61? **G. microptera**, *F. Muell. Fragm.* iii. 34. The specimens of this species consist of 2 small fragments, apparently very near to *G. glauca*. The leaves are wanting. The flowers are of the size of those of *G. glauca*, but the calyx-teeth are shorter, and the wings of the corolla-lobes are narrower, except the auricle of the upper lobes, which is broad. The dissepiment of the ovary reaches above the middle, and the capsule is rather longer than in

G. glauca, but the true value and affinities of the species cannot be correctly judged of without better specimens.

N. Australia. Nichol Bay, N.W. coast, *Walcott*.

SECT. III. AMPHICHLA, DC. Corolla with the 2 upper lobes separated much lower down than the others. Ovules very numerous, closely packed in more than 2 rows in each cell of the ovary, which is 2-celled, except the very short, free summit. Capsule less coriaceous than in the other sections. Seeds numerous and small. — Flowers small, in leafless panicles or on radical scapes.

62. *G. paniculata*, *Sm. in Trans. Linn. Soc.* ii. 348. A perennial, more or less hirsute or rarely glabrous, with a tufted stock and erect stems of 1 to 2 ft. Radical leaves petiolate, from obovate to narrow-lanceolate, irregularly toothed or rarely entire, 1 to 2 in. long when broad, often twice that length when narrow; stem-leaves few and much smaller, the floral ones reduced to linear bracts. Flowers yellow, in a loose, terminal panicle, the primary branches racemose, the secondary cymose, the flowers all pedicellate within the small, linear bracts. Calyx-lobes subulate, short. Corolla about $\frac{1}{2}$ in. long, glandular-pubescent outside, with longer simple hairs intermixed. Capsule about 2 lines long, the dissepiment reaching nearly to the top. Seeds numerous and very small, but orbicular and flattened — R. Br. Prod. 575; Cav. Ic. t. 507; DC. Prod. vii. 513; De Vr. Gooden. 125; *G. flexuosa*, De Vr. Gooden. 126 (from the character given).

Queensland. Dawson, Mackenzie, and Barnett rivers, *F. Mueller*; Rockingham Bay, *Dallachy*; Rockhampton, *O'Shanesy*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; Hastings river, *Beckler*; Richmond river, *Fawcett*.

Victoria. Lake Wellington and seacoast near Snowy River, *F. Mueller*.

F. Mueller (Fragm. i. 116) refers to this species *G. gracilis* and *G. humilis*, which are certainly closely allied; but, if they are united, *G. lamprosperma* should also be included.

63. *G. purpurascens*, *R. Br. Prod.* 578. Glabrous, pubescent or the foliage almost woolly. Stock tufted; stems erect, 1 to 2 ft. high. Radical leaves linear or lanceolate, attaining sometimes 6 in. or more, entire or with a few remote teeth, the broader ones contracted into a long petiole; stem-leaves few and linear or none besides the small bracts. Flowers small, "of a purplish blue," usually numerous, in a loose panicle, the primary racemose branches bearing loose, irregular, dichotomous cymes. Calyx-tube very short; lobes linear. Corolla-tube adnate much higher up than the calyx; lobes broadly winged, the 2 upper ones separated low down, and the wings very unequal. Dissepiment of the ovary reaching to the summit or nearly so. Capsule rarely 2 lines long. Seeds exceedingly numerous and small, flat, with a wing-like margin of very variable breadth. — DC. Prod. vii. 515; De Vr. Gooden. 153; *F. Muell. Fragg.* i. 117.

N. Australia. Victoria river and Start's Creek, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; Fitzmaurice river and near Providence Hill, *F. Mueller*.

Queensland. Rockingham Bay, *Dallachy*; Cleveland Bay, *Bowman*.

Var.? *minima*, *F. Muell.* Very slender and small. Stems filiform, 3 to 4 in. high.

Panicle little branched, with few very small flowers.—Upper Victoria river, *F. Mueller*. Perhaps a distinct species, but the specimens not perfect.

64. **G. gracilis**, *R. Br. Prod.* 575. A perennial, glabrous or with more or less of wool about the stock. Radical leaves petiolate, linear or linear-lanceolate, varying from 1 to 5 or 6 in. long, usually entire. Flowering stems always much longer than the radical leaves, and sometimes above 1 ft., with very few, linear leaves. Panicle loose as in *G. paniculata* and *G. purpurascens*. Flowers yellow, and fruit entirely of *G. paniculata*. Seeds very numerous, small, flat, smooth, and shining.—*DC. Prod.* vii. 513.

Queensland. Broad Sound, *R. Brown*; Rockhampton and Keppel Bay, *Thozet*.

N. S. Wales. Mitou Plains, S. of Liverpool Plains, *A. Cunningham*; Murray and Darling rivers, *Dallachy*.

Victoria. Murray, Ovens, Broken, and King rivers, *F. Mueller*.

65. **G. lamprosperma**, *F. Muell. Fragm.* i. 116. Very closely allied to *G. gracilis*, and perhaps a variety, more rigid and very much branched, 1 to 1½ ft. high, with very few stem-leaves. Radical leaves linear or lanceolate, but thicker and more rigid than in *G. gracilis*, prominently veined, often rather broader and occasionally toothed. Flowers smaller than in some specimens of *G. gracilis*, but quite like those of other specimens, and in other respects quite the same, as well as the capsule and seeds.

N. Australia. Victoria river, Sturt's Creek, and Macadam Range, *F. Mueller*.

66. **G. humilis**, *R. Br. Prod.* 575. A small, tufted perennial, glabrous, except the inflorescence, which is pubescent or rarely the leaves and base of the stem are slightly hirsute. Leaves radical, petiolate, linear-lanceolate or oblong, sometimes all under 1 in., sometimes several inches long, quite entire in all the specimens seen. Flower-stems or scapes almost leafless, paniculate, shorter than or scarcely exceeding the leaves, the primary branches racemose, the secondary cymose, the flowers pedicellate above the small, narrow bracts. Flowers yellow, and fruits of *G. paniculata* or the flowers rather smaller. Ovules quite as numerous as in that species, but the seeds sometimes fewer and rather larger.—*DC. Prod.* vii. 513; *Hook. f. Fl. Tasm.* i. 233. t. 68; *De Vr. Gooden.* 131. t. 23; *G. graminifolia*, *Hook. f. in Hook. Lond. Journ.* vi. 265; *De Vr. Gooden.* 133; *G. nana*, *De Vr. Gooden.* 132.

Victoria. Port Phillip, *R. Brown*; Melbourne, *Adamson*; Glenelg river, *Robertson*; Portland, *Allitt*; Wannon, *Wilhem*.

Tasmania. Northern parts of the island in marshy soil, *J. D. Hooker*.

67. **G. Laytoniana**, *F. Muell. Herb.* A small, glabrous perennial, with a densely tufted stock. Radical leaves numerous, linear, obtuse, entire, thin, from under 1 in. to above 2 in. long. Stems slender, erect, 2 to 6 in. high, leafless except the bracts, divided into a loose 2- or 3-chotomous or almost umbellate panicle of few flowers, with leaf-like linear bracts at the forks. Pedicels filiform, without bracteoles. Flowers small, yellow. Calyx about 2 lines long, the lobes as long as the tube. Corolla 3 to 4 lines long, slightly hairy outside, the 2 upper lobes separated low down and unequally winged. Indusium glabrous, ciliate. Dissipiment of the ovary reaching to

the top of the adnate part; ovules very numerous. Capsule narrow, about 2 lines long, opening in 4 valves. Seeds very small, flat, not winged.—*G. tenella*, F. Muell. Fragm. ii. 111, not of R. Br.

W. Australia. *Drummond*, 1st Coll. n. 42, also n. 159, 406; swampy flats, Don river, *Maxwell*.

68. **G. bicolor**, F. Muell. *Herb.* A small, tufted, pubescent plant, apparently perennial. Leaves rosulate, petiolate, obovate or ovate, thin, entire or minutely and remotely toothed, the larger ones above 1 in. long. Scapes slender, erect, leafless or with very small, linear, bract-like leaves, 2 to 4 in. high, bearing a loose raceme of very few small flowers. Bracts small and narrow. Pedicel $\frac{1}{2}$ in. long, without bracteoles. Calyx nearly 2 lines long, the lobes as long as the tube. Corolla 3 to 4 lines long, pubescent outside, the upper lobes purple, the lower yellow (F. Muell.), the upper ones separate to the base. Dissepiment reaching nearly to the top of the ovary, with numerous ovules in several rows. Capsule oblong, about 2 lines long. Seeds very numerous and small, flat, orbicular, with a thickened margin.

N. Australia. Pastures between Macadam Range and Providence Hill, F. Mueller. This appears to be the plant alluded to as near *G. paniculata* by F. Mueller, Fragm. i. 117.

69. **G. pumilio**, R. Br. *Prod.* 579. A small, shortly creeping or stoloniferous perennial, hoary with an irregularly stellate pubescence. Leaves in rosulate tufts, petiolate, ovate or orbicular, obtuse, entire, 1 to 3 lines long. Peduncles numerous in the tufts, slender, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, each with a single, small flower, without bracteoles. Calyx not above 1 line long at the time of flowering, the lobes short. Corolla only seen in bud, and then the 2 upper lobes rather larger than the others. Anthers ovate. Ovary almost completely 2-celled; ovules in about 4 rows in each cell. Capsule oblong or ovoid-oblong, $1\frac{1}{2}$ to nearly 2 lines long. Seeds small, orbicular, flat, not winged.—DC. *Prod.* vii. 516.

N. Australia. South Goulburn island, A. Cunningham.

Queensland. Endeavour river, Banks and Solander.

5. CALOGYNE, R. Br.

(Distylis, Gaudich.)

Calyx, corolla, stamens, ovary, capsule, and seeds of *Goodenia*. Style deeply divided into 2 incurved and connivent branches, each with a dimidiate indusium open on the inner edge, and enclosing a half-stigmate, with sometimes a third intermediate shorter branch, with a straight indusium open on both edges, and enclosing the central portion of the stigmate.—Erect or diffuse annuals. Leaves alternate. Peduncles axillary, without bracteoles. Flowers yellow.

Besides the two Australian species, a third has been published from the coasts of China. It is, however, so near to the *C. pilosa* that it may, perhaps, prove to be a variety only. The genus is very closely allied to *Goodenia*, with a precisely similar habit, differing in the single character of the divided style.

Style with 2 branches. Dissepiment reaching at least the middle of

the ovary 1. *C. Berardiana*.

Style with 3 branches. Dissepiment exceedingly short, almost rudimentary. 2. *C. pilosa*.

1. **C. Berardiana**, F. Muell. *Fragm.* vi. 7. An erect, glandular-pubescent or hirsute annual of $\frac{1}{2}$ to 1 ft. Leaves lanceolate or almost linear, bordered by a few teeth or almost entire, the radical ones petiolate, in some specimens almost lobed and 2 to 3 in. long, in others few, small, and entire; the stem-leaves few and distant, gradually passing into narrow-linear bracts. Calyx-lobes linear. Corolla hairy outside, usually about $\frac{1}{2}$ in., but in some specimens 8 to 9 lines long, the tube very shortly closed above the ovary, the upper lobes separated very low down and unequally winged, with an inflexed, concave auricle, the lower lobes equally winged. Anthers minutely mucronate. Dissepiment of the ovary reaching to about the middle, with 6 to 8 ovules in each cell. Style divided from halfway down to near the base into 2 branches, without the third intervening one of *C. pilosa*. Capsule ovoid, 3 to 4 lines long. Seeds flat, orbicular, winged.—*Distylis Berardiana*, Gaud. in Frey. Voy. Bot. 460. t. 80; DC. Prod. vii. 517; *Calogyne distylis*, F. Muell. *Fragm.* vi. 6.

N. Australia. Dampier Archipelago, N.W. coast, J. Canningham (in fruit only).

W. Australia. Swan River, Drummond, 1st Coll. n. 409, and Suppl. n. 27; Oldfield river, Maxwell; Basaltic Ranges, N. of Stirling Range, F. Mueller; Marchison river? Oldfield, Barges (these specimens with larger flowers). The aspect of the plant is that of some specimens of *Goodenia glauca*, but with a different indumentum. De Vries did not recognize it, but named the specimens he had to examine from the Hookerian Herbarium either *Velleia lanceolata* or *Euthales trinervis*.

2. **C. pilosa**, R. Br. *Prod.* 579. An erect or branching and diffuse, more or less hispid annual of $\frac{1}{2}$ to 1 ft. Leaves sessile or the lower ones petiolate, the upper ones often stem-clasping, lanceolate or almost linear, 1 to 2 in. long, marked with a few distant teeth, and the floral ones usually with 1 or 2 lobes on each side at the base. Calyx-lobes lanceolate, leafy, hirsute. Corolla slightly hispid outside, scarcely $\frac{1}{2}$ in. long, the tube shortly closed above the ovary, the upper lobes separated very low, unequally winged, with an inflexed, concave auricle, lower lobes equally winged. Anthers mucronate-acuminate. Style with the 2 branches of *C. Berardiana*, and a third shorter intervening one. Ovary almost completely 1-celled, the very short dissepiment dividing the cavity into two, as in *Goodenia*, but sometimes almost rudimentary. Ovules about 6. Capsule nearly globular, 2 to 3 lines diameter. Seeds oval, flat, with a rather broad, thick border.—DC. *Prod.* vii. 517; De Vr. *Gooden.* 180, partly; *Goodenia dubia*, Spreng. *Syst.* i. 721.

N. Australia. Arnhem Bays and islands of the Gulf of Carpentaria, R. Brown.

Queensland. Rockingham Bay, Dallachy. *C. chinensis*, Hance, from the coasts of China, is closely allied to this species, and may prove to be a variety only. The specimens from the N.W. coast and from Port Essington referred here by De Vries belong to *Goodenia sepulosa* and *G. hispida*. In outward aspect *Calogyne pilosa* much resembles some specimens of *Goodenia hispida*.

6. SELLIERA, Cav.

Calyx-tube adnate; limb free, of 5 lobes or segments. Corolla-tube slit on the upper side to the ovary, the limb of 5 nearly equal lobes, at length

digitately spreading, the margins slightly inflexed or winged. Stamens free. Ovary inferior, more or less 2-celled, with several erect ovules. Style undivided. Indusium cup-shaped, enclosing the short truncate stigma, the margin not at all or very minutely ciliate. Fruit more or less succulent, indehiscent. Seeds compressed or irregularly shaped. Embryo about half as long as the albumen.—Small or creeping perennials. Leaves entire. Flowers axillary, sessile or pedunculate.

Of the two species, both Australian, one is endemic, the other extends to New Zealand and extratropical South America. The genus has been reduced by Brown and De Candolle to *Goodenia*, the flowers being nearly those of the section *Morochila*, but the indehiscent fruit accompanied by a different habit has induced me to follow J. D. Hooker in restoring it as originally established by Cavanilles.

Stems creeping. Flowers pedicellate. Seeds rather numerous, flat . . . 1. *S. radicans*.
Stems densely branched in tufts of 1 to 1½ in. Flowers sessile. Seeds
few, irregularly shaped 2. *S. exigua*.

1. ***S. radicans***, *Car. Ic.* v. 49. t. 474. A glabrous prostrate or creeping perennial, extending sometimes to several feet. Leaves clustered at the nodes or sometimes solitary, linear oblong spatulate or rarely ovate, obtuse, entire, thick, narrowed into a long petiole, from 1 to 2 in. long or when very luxuriant twice that size. Peduncles 1-flowered, axillary, shorter than the leaves. Bracteoles small, at a distance from the flower unless the pedicel is very short. Calyx-lobes divided to the ovary, lanceolate or linear. Corolla 3 to 4 lines long, glabrous outside, the lobes not winged. Ovary 2-celled nearly to the top, with numerous ovules in 2 rows in each cell. Fruit ovoid or oblong, about 2 or rarely 3 lines long. Seeds compressed, with a distinct margin, and sometimes irregularly winged.—Hook. f. *Fl. Tasm.* i. 231; De Vr. Gooden. 163; *Goodenia radicans*, Pers. Syn. i. 195; DC. Prod. vii. 516; *G. littoralis*, R. Br. in Flind. Voy. ii. 561; *G. repens*, Labill. Pl. Nov. Holl. i. 53. t. 76; R. Br. Prod. 579; DC. Prod. vii. 516; *Selliera repens*, De Vr. Gooden. 162; *S. herpystica*, Schlecht. Linnæa, xx. 598; De Vr. Gooden. 164.

Victoria. Common on the Yarra river, *F. Mueller* and others; Darebin Creek, *F. Mueller*; Glenelg river, *Robertson*; Little River, *Fallagar*; Wimmera, *Dallachy* (in leaf only).

Tasmania. King's Island and Port Dalrymple, *R. Brown*. Common in marshy places near the sea, *J. D. Hooker*.

S. Australia. Port Lincoln, *R. Brown*; Gawler river, Holdfast Bay, *F. Mueller*.

The species is also in New Zealand and in extratropical South America.

2. ***S. exigua***, *F. Muell. Fragm.* iii. 142. A dwarf, procumbent, very much-branched glabrous perennial, forming dense tufts of 1 to 1½ in. diameter, or the stock proliferous-branched, each branch terminating in a similar tuft. Leaves oblong-lanceolate, spatulate or almost linear, thick, entire, 1 to 1½ lines long, on petioles of 2 to 4 lines. Flowers axillary, sessile. Bracteoles small, linear. Calyx-tube turbinate, limb campanulate, deeply 5-lobed, rather longer than the tube. Corolla glabrous outside, 3 lines long or rather more, the lobes nearly equal and digitately spreading, all winged. Ovary with 3 or 4 erect ovules. Indusium not ciliate. Fruit nearly globular, 1 to 1½ lines diameter, indehiscent or irregularly bursting. Seeds 3 in

the fruit examined, smooth and shining, irregularly shaped.—*Goodenia exigua*, F. Muell. l. c.

W. Australia. Margin of Moir's Inlet, *Maxwell*.

7. CATOSPERMA, Benth.

Calyx-tube adnate; lobes 5, free. Corolla-tube slit on the upper side to the ovary, the limb of 5 nearly equal lobes, at length digitately spreading, the margins shortly winged. Stamens free. Ovary wholly inferior, 2-celled, with 2 ovules in each cell suspended from the top. Indusium cup-shaped, enclosing the short stigma, minutely ciliate. "Drupe 10-ribbed, 4-seeded, the cells imperfectly 2-locellate" (F. Muell.).—Glabrous herb. Leaves toothed. Flowers yellow, in axillary pedunculate cymes.

The genus is limited to a single species, endemic in Australia, with the flowers of some species of *Goodenia* or of *Scævola*, but differing remarkably from the whole Order in the insertion of the ovules.

1. **C. Muelleri**, Benth. in *Hook. Ic. Pl. t.* 1028. A glabrous perennial, the stems procumbent or ascending, 1 to 1½ ft. long. Leaves petiolate, ovate or obovate, irregularly toothed, the larger ones above 1 in. long without the petiole. Peduncles usually bearing 3 flowers on rather long pedicels, the central one without bracteoles, the lateral ones with two minute bracteoles below the middle. Calyx-tube about 1½ lines long; lobes shorter, linear-lanceolate. Corolla about ½ in. long, glabrous outside, slightly pubescent inside. Style glabrous or nearly so. Fruit, according to F. Mueller, 3 to 4 lines long.—*Scævola goodeniacea*, F. Muell. *Fragm. i.* 121.

W. Australia. Gravelly banks of Victoria river, Hooker's and Sturt's Creeks, F. Mueller. The specimens I have seen have the fruit as yet very young, and the ripe seeds are unknown.

8. SCÆVOLA, Linn.

(*Pogonetes*, Lindl., *Temminckia*, *Kamphusia*, *Crossotoma*, *Molkenboeria*, and *Merkusia*, *De Vr.*)

Calyx-tube adnate, limb usually very short, annular cup-shaped or of 5 distinct segments, sometimes obsolete. Corolla oblique, the tube slit open to the base on the upper side, the lobes nearly equal or the upper ones shorter, usually at length digitately expanding. Stamens free. Ovary wholly inferior or rarely the summit free, 2-celled with 1 erect ovule in each cell or 1-celled with 1 or 2 erect ovules. Style undivided; indusium cup-shaped, enclosing the truncate or divaricately 2-lobed stigma. Fruit indehiscent, with a more or less succulent or thin and membranous exocarp, and a hard woody or bony rarely thin and crustaceous endocarp. Seeds 1 in each cell, erect, albuminous, embryo usually terete and as long as the albumen, or rarely the cotyledons broader than the radicle.—Herbs undershrubs or shrubs. Leaves alternate. Flowers solitary between 2 bracteoles, sessile or pedunculate in the axils of the leaves or subtending bracts or the peduncles dichotomously branched, with a flower in each fork. Indumentum simple or stellate, the hairs outside the corolla usually reversed, the tube of the corolla always more or less villous inside, the lobes at their base sometimes fringed with

long teeth or bristles often tipped with a minute white tuft, and continued more or less into the tube down the lines of junction of the petals.

Out of Australia there are several species in the islands of the Pacific, and two maritime ones (one of them Australian) are widely diffused over the warmer seacoasts of the new as well as the Old World; the remaining Australian species are all endemic.

SECT. I. **Sarcocarpæa**.—*Shrubs. Leaves usually large with woolly axils. Flowers in lateral or axillary dichotomous cymes. Exocarp usually very succulent.*

Leaves obovate. Calyx-lobes oblong or linear 1. *S. Kœnigii*.

SECT. II. **Crossotoma**.—*Shrubs. Flowers solitary on short slender axillary peduncles.*

Bracteoles very small, free or none. Leaves entire.

Leaves linear-cuneate obovate or ovate, crowded or clustered on short branchlets or nodes 2. *S. spinescens*.

Leaves elliptical or ovate, scattered along the branches 3. *S. Grœneri*.

Bracteoles ovate or oblong, connected halfway up on the upper side. Leaves sinuate or coarsely toothed.

Plant densely stellate-tomentose 4. *S. tomentosa*.

Plant minutely stellate-pubescent 5. *S. atriplicina*.

SECT. III. **Pogonanthera**.—*Herbs or undershrubs. Peduncles or pedicels axillary, 1-flowered or the lower ones bearing a dichotomous cyme of 3 or more flowers or rarely flowers sessile on leafless nodes. Anthers in the first 5 species tipped with a minute tuft of hairs.*

Decumbent diffuse or prostrate leafy herbs. Leaves, at least the lower ones, toothed.

Wings of the corolla-lobes marked with numerous transverse veins. Anthers penicillate.

Bracteoles ovate or oblong, leafy 6. *S. striata*.

Bracteoles linear, usually very small 7. *S. phlebopetala*.

Wings of the corolla-lobes veinless.

Peduncles mostly as long as or longer than the leaves. Anthers penicillate.

Bracteoles ovate. Western species 8. *S. pilosa*.

Bracteoles linear. Eastern species.

Corolla-wings broad 9. *S. hispida*.

Corolla-wings very narrow or scarcely any 10. *S. apterantha*.

Peduncles shorter than the leaves. Plant prostrate or creeping. Anthers not penicillate 11. *S. Hookeri*.

(The flowers are shortly pedicellate with large bracteoles in 35. *S. platyphylla*, but form a terminal leafy spike as in other *Xerocarpæas*.)

Erect or ascending undershrubs or rigid herbs. Leaves narrow, entire or reduced to scales. Anthers not penicillate.

Stem-leaves very small and distant or none.

Plant hirsute erect and much-branched 12. *S. parvifolia*.

Branches glabrous elongate, rush-like. Flowers sessile 13. *S. restiacea*.

Branches glabrous elongate divaricate. Flowers pedicellate 14. *S. depauperata*.

Stems dwarf erect tortuose 15. *S. tortuosa*.

Leaves linear, mostly 1 in. long or more. Plant glabrous.

Peduncles elongated, mostly 3- or 5-flowered 16. *S. Cunninghamii*.

Peduncles none. Pedicels elongated, solitary or clustered with minute bracteoles at their base. Fruit beaked 17. *S. collaris*.

SECT. IV. **Xerocarpæa**.—*Herbs undershrubs or shrubs. Flowers sessile or nearly so in the axils of floral leaves or bracts, all or the upper ones forming a terminal dense or interrupted and leafy spike.*

SERIES I. **Globuliferae**.—*Ovary 2-celled. Hairs on the back of the indusium short or few or scattered. Flowers rather large (usually blue), with rows of soft bristles or subulate teeth tipped with minute white tufts descending in the throat from the margins of the lobes.*

Glabrous or rarely with long spreading hairs at the base of the stem.

Leaves mostly sessile, ovate-oblong or broadly lanceolate, entire 18. *S. angulata*.

Leaves mostly petiolate, ovate or elliptical, toothed 19. *S. nitida*.

Leaves all linear or lanceolate, entire or very rarely toothed.

Fruit ovoid, rugose 20. *S. globulifera*.

Fruit large, globular, smooth, striate 21. *S. porocarya*.

Whole plant or at least the inflorescence hairy.

Lower leaves petiolate, broadly lanceolate, toothed. 22. *S. attenuata*.

Rigidly hirsute. Leaves linear or rarely lanceolate, entire.

Corolla and inflorescence glandular pubescent. Fruit smooth 23. *S. glandulifera*.

No glandular hairs. Fruit very rugose 24. *S. anchusafolia*.

Densely tomentose-villous. Leaves lanceolate or linear, soft, thick, entire 25. *S. holosericea*.

Villous with appressed hairs or almost glabrous. Stems decumbent. Leaves thick, entire, the lower ones obovate 26. *S. suaveolens*.

(A few of the penicillate cilia in the throat of the corolla are observable in some other series, especially in 42. *S. microcarpa* and others of the *Monosperma*.)

SERIES II. **Macrostachyæ**.—*Ovary 2-celled. Hairs on the back of the indusium short or few or scattered. Flowers usually smaller than in the Globuliferae (white?), with very few or no penicillate bristles within the throat. Fruiting spikes usually continuous with small bracts.*

Branching tomentose-villous shrub. Leaves small, entire, mostly sessile

. 27. *S. revoluta*.

Glabrous or viscid shrubs. Leaves petiolate, broad, toothed.

Leaves ovate or obovate. Bracts ovate or elliptical. Fruit ovoid. Tropical species 28. *S. ovalifolia*.

Leaves obovate or orbicular. Bracts linear or lanceolate. Fruit globular or depressed 29. *S. crassifolia*.

Undershrubs or herbs. Leaves linear or lanceolate.

Inflorescence or the whole plant hirsute. Fruit ovoid-oblong.

Upper leaves and bracts rigidly ciliate. Tropical species 30. *S. macrostachya*.

Bracts very hairy all over. Western species.

Bracts lanceolate. Indusium ciliate 31. *S. longifolia*.

Bracts ovate, acuminate. Indusium scarcely ciliate 32. *S. lanceolata*.

Plant glabrous. Fruit very small, broader than long. Indusium not ciliate 33. *S. thesioides*.

SERIES III. **Pogogyneæ**.—*Ovary 2-celled. Indusium with a dense tuft of hairs at the base on the back as long as the indusium itself.*

Leaves sessile, broadly stem-clasping.

Leaves ovate-lanceolate, toothed. Bracts lanceolate. Spike dense. Bracteoles linear-subulate 34. *S. macrophylla*.

Leaves ovate or oblong, mostly entire, the floral ones large. Bracteoles broad 35. *S. platyphylla*.

Leaves membranous, broad, coarsely toothed, with toothed auricles. Spike interrupted. Bracteoles oblong or lanceolate 36. *S. auriculata*.

Leaves mostly petiolate or narrowed at the base.

Lower leaves obovate, toothed. Stem usually decumbent 37. *S. æmula*.

Lower leaves obovate, very acutely toothed 38. *S. humilis*.

Leaves small, entire, thick. Small erect undershrub 39. *S. amblyanthera*.

(The dense tuft of hairs at the back of the indusium occurs also in some species of the section *Pogonantha*, and in the first two species of the series *Monospermæ*.)

SERIES IV. *Monospermæ*.—Ovary 1-celled, 2-ovulate. Fruit usually 1-seeded.

Flowers in terminal interrupted leafy spikes.

Indusium with a dense tuft of long hairs at the base on the back as in the *Pogogyneæ*.

Leaves stem-clasping and auriculate 40. *S. microphylla*.

Leaves contracted at the base or petiolate 41. *S. cuneiformis*.

Indusium glabrous or shortly hairy on the back.

Leaves obovate or oblong, toothed 42. *S. microcarpa*.

Leaves linear, revolute, entire 43. *S. linearis*.

Flowers in short dense leafy spikes or clusters, lateral or on short axillary branchlets. Leaves entire.

Glabrous. Leaves linear or lanceolate 44. *S. Oldfieldii*.

More or less hairy. Leaves linear or lanceolate 45. *S. paludosa*.

Closely silky-tomentose or villous. Leaves elliptical, acute . 46. *S. sericophylla*.

Densely tomentose or villous. Leaves oblong or linear, obtuse, thick and soft 47. *S. canescens*.

Leaves narrow-linear, nearly glabrous.

Axils very woolly-white 48. *S. humifusa*.

Axils not woolly. 43. *S. linearis*.

SERIES V. *Parvifloræ*.—Ovary 1-celled, 1- or 2-ovulate, the upper portion free. Style covered with short purple glandular hairs. Leaves very narrow. Flowers small and numerous in terminal spikes.

Leaves short, fine, clustered and heath-like. Bracts nearly as long as the flowers. Corolla-tube nearly as long as the lobes. Ovules solitary 49. *S. fasciculata*.

Leaves long, crowded. Bracts very short. Corolla-tube much shorter than the lobes. Ovules 2 50. *S. stenophylla*.

S. lyratifolia, De Vr. in Pl. Preiss. i. 405; *Merkasia lyratifolia*, De Vr. Gooden. 60, from the cataracts of Swan River, Preiss. ii. 1185, which I have not seen, is probably, from the description given, not a *Scævola*.

SECT. I. *SARCOCARPÆA*, *G. Don*.—Shrubs. Leaves usually large, with woolly axils. Flowers in lateral or axillary, dichotomous cymes. Exocarp usually very succulent. Species mostly maritime or insular.

1. *S. Koenigii*, *Vahl, Symb.* iii. 36. An erect shrub, with a thick, almost succulent stem, the branches, leaves, and inflorescence either silky-pubescent or nearly glabrous, but always with a tuft of long, silky or woolly hairs in the axils. Leaves obovate-oblong, 3 to 5 in. long, rounded and very obtuse at the top, entire or rarely broadly crenate, narrowed at the base into a very short petiole. Cymes axillary, very much shorter than the leaves. Bracts small. Calyx-lobes oblong-linear, very variable in length, but usually as long as or longer than the tube. Corolla about $\frac{3}{4}$ in. long, more or less pubescent outside, the wings of the lobes narrow. Ovary 2-celled. Drupe ovoid or nearly globular, the endocarp bony, near 4 lines long, the exocarp succulent. R. Br. Prod. 583; DC. Prod. vii. 505; Hook. and Thoms. in Journ. Linn. Soc. ii. 8; Bot. Mag. t. 2732; *S. Tacrada*, Roxb.; Wight, Illustr. t. 137; *S. sericea*, Forst.; Br. Prod. 583; DC. Prod. vii. 506; *S. Lobelia*, De Vr. in Kruidk. Arch. ii. 20 and Gooden. 20; Benth. Fl. Hongk. 198; *S. macrocalyx*, De Vr. Gooden. 26. t. 3; *S. chlorantha*, De Vr.

l. c. 27; *S. Lambertiana*, De Vr. l. c. 28; *S. montana*, Labill. Sert. Austr. Caled. 41. t. 42.

N. Australia. N. coast, *A. Cunningham*; mouth of Victoria river, *P. Mueller*.

Queensland. Along the tropical seacoast; Palm Island, *Banks and Solander*; Endeavour Strait, Low Island, and Northumberland Islands (the latter with smaller leaves crenate at the end), *R. Brown*; Escape Cliffs, *Halls*; Port Denison, *Fitzalan*; Edgecombe Bay, *Dallachy*.

A common seacoast plant in the warmer parts of the Old World, and chiefly within the tropics, occurring occasionally also in the West Indies, but there the most common species is *S. Plumieri*, distinguished by the truncate, annular, calyx-limb without the lobes of *S. Koenigii*, and usually by thicker leaves. This *S. Plumieri* occurs also on the coasts of Africa, Ceylon, and other parts of Asia, but has not yet been found in Australia. De Vriese reunites it with *S. Koenigii*, but that is owing to his having mistaken Vahl's plant. The distinction between the two species was well pointed out by Gaertner and by Vahl, and has been maintained by all subsequent botanists, however much they have multiplied species. Nevertheless, the specimens determined by De Vriese as *S. Plumieri* belong to *S. Koenigii*, and he has distributed the true *S. Plumieri* (which he could not have mistaken if he had looked at Plumier's figure) in his *S. Mucroni*, *S. senegalensis*, *S. Sieberi*, *S. Thunbergii*, and *S. wifera*.

In the 'Flora Hongkongensis' I had followed De Vriese in calling the species *S. Lobelia*, Linn., but I cannot find that Linnaeus ever gave it such a name in any published work. He published the genus in his 'Mantissa,' p. 145, without any specific name, having previously designated Plumier's and Jacquin's plant as *Lobelia Plumieri*. *Scævola Lobelia* first occurs in Gmel. Syst. Nat. Veg. 361, but that refers especially to *S. Plumieri*, as evidenced by the authority of Plumier's and Jacquin's figures quoted. He might, indeed, if he had known of it, have included also the *S. Koenigii*, for he misquotes Gaertner's figure under a wrong name, but he never gave the name of *S. Lobelia* exclusively or specially to the latter species.

SECT. II. *Crossotoma*, *G. Don*.—Shrubs. Flowers solitary, on short, slender, axillary peduncles. Fruit sometimes with as succulent an exocarp as in *Sarcocarpaea*, in other species nearly dry.

2. ***S. spinescens***, *R. Br. Prod.* 586. A rigid, scrubby shrub of several feet, glabrous or hoary-tomentose, the short branchlets often, but not always converted into short, simple or branched spines. Leaves often clustered on short branchlets or nodes, obovate spatulate oblong or linear, obtuse, entire, thick, under $\frac{1}{2}$ in. when broad, sometimes near 1 in. long when narrow. Flowers few or solitary in the clusters of leaves, the peduncles slender, but rarely as long as the leaves. Bracteoles small, narrow-linear. Calyx-limb exceedingly short, annular, truncate. Corolla white, 6 to 8 lines long, tomentose or glabrous outside. Indusium ciliate. Ovary 2-celled. Drupe ovoid, rather large, with a bony endocarp, and thick, succulent mesocarp. Seeds with a large embryo, and very little albumen.—DC. Prod. vii. 512; *S. oleoides* and *S. lycioides*, DC. l. c.; *Pogonetes*, Lindl. Introd. Nat. Syst. ed. 2. 443; *Crossotoma spinescens*, *C. oleoides*, and *C. lycioides*, De Vr. Gooden. 36 to 38.

N. Australia. Dampier's Archipelago, *A. Cunningham*.

Queensland, *Bowman*; Bokhara Creek, *Leichhardt*; between Thomson and Flinders rivers, *Sutherland*; on the Marara, *Mitchell*; Armadillo, *W. Burton*.

N. S. Wales. N. extremity of Peel's Range, *A. Cunningham*; between the Murray and Darling rivers, *Victorian and other Expeditions*.

S. Australia. Islands of Nyut's Archipelago and Petrel Bay (the very spinescent

form, with small, broad leaves), *R. Brown*; Murray Scrub, Flinders Range, and Spencer's Gulf, *F. Mueller*; Lake Gillies, *Burkitt*.

W. Australia, *Drummond*, n. 413, and *Suppl.* n. 51; Murchison river, *Oldfield*.

Generally speaking the leaves are small, broad, and whitish tomentose on the most scrubby spinescent specimens, narrow, longer, and green on the luxuriant ones, but sometimes the two occur on different branches of the same specimen. The fruit described was only seen on one of *Drummond's* specimens, n. 51, without flowers. On other specimens it appears to be ovoid, rather small, dry, and rugose, but evidently not arrived at perfection, and without any seed.

3. **S. Grœneri**, *F. Muell. Fragm.* vi. 15. An erect, glabrous, branching shrub. Leaves numerous but not clustered, petiolate, ovate-elliptical oblong or lanceolate, coriaceous, acute or obtuse, entire, $\frac{1}{2}$ to 1 in. long. Pedicels axillary, 1-flowered, short but slender, the flowers slightly exceeding the leaves. Bracteoles linear. Calyx-lobes exceedingly small, ovate. Corolla slender, 7 to 9 lines long, glabrous outside; lobes with narrow wings, the middle ones sometimes fringed at the base with a few long teeth, decurrent in the throat. Ovary 2-celled. Indusium glabrous, ciliate. Style lobes rather long, and divaricate. Fruit not seen.—*Merkusia myrtifolia*, De Vr. Gooden. 72.

W. Australia, *Drummond*, n. 363.

4. **S. tomentosa**, *Gaudich. in Freye. Voy. Bot.* 460. t. 81. An erect shrub, clothed all over with a close, stellate tomentum. Leaves ovate, obovate or oblong, narrowed into a short petiole, coarsely sinuate-toothed, above 1 in. long. Pedicels axillary, 1-flowered, much shorter than the leaves. Bracteoles leafy, entire, ovate and obtusely acuminate or oblong, connate on the upper side to about the middle. Calyx-limb a very short, ciliate ring. Corolla 10 to 11 lines long, tomentose outside, the tube gibbous at the base on the lower side, the upper lobes fringed at the base. Ovary 2-celled. Style slightly hairy. Indusium glabrous, ciliate. Fruit not seen.—DC. Prod. vii. 506; *Temminckia tomentosa*, De Vr. Gooden. 13.

W. Australia. Sharks' Bay (*Gaudichaud*), *Maitland Brown* (a single specimen in Herb. F. Muell.).

5. **S. atriplicina**, *F. Muell. Fragm.* ii. 18. A branching shrub, sprinkled with a minute, stellate pubescence. Leaves often crowded on the short branchlets, ovate obovate or oblong, obtuse, entire or coarsely sinuate-toothed, 1 to 2 in. long. Pedicels axillary, 1-flowered, slender, shorter than the leaves. Bracteoles leafy, entire, ovate and obtusely acuminate or oblong, connate on the upper side to about the middle. Calyx-limb a very short ring or quite obsolete. Corolla about $\frac{3}{4}$ in. long, pubescent outside, the tube gibbous at the base on the lower side, the upper lobes often fringed at the base. Filaments long. Ovary 2-celled. Style slightly hairy. Indusium ciliate. Drupe small, ovoid, the endocarp bony and rugose, the exocarp more or less succulent.

W. Australia. Port Gregory, *Oldfield*: also in *Drummond's* collection. The specimens are very few, and not perfect. It may prove to be a variety of *S. tomentosa*.

SECT. III. POGONANTHERA, *G. Don*.—Herbs or undershrubs. Peduncles or pedicels axillary, 1-flowered or the lower ones bearing a dichotomous

cyme of 3 or more flowers, and not forming a terminal spike. Anthers in the first 5 species tipped with a minute tuft of hair, but not in the others. Fruit usually hard, the exocarp scarcely succulent.

6. **S. striata**, *R. Br. Prod.* 586. A scabrous-pubescent or hispid perennial, with diffuse, decumbent or ascending slightly-branched stems of $\frac{1}{2}$ to $1\frac{1}{2}$ ft., flowering sometimes the first year, and then more simple and erect. Leaves obovate or oblong-spathulate, coarsely toothed, the lower ones petiolate, the upper ones sessile but narrowed at the base, and all slightly stem-clasping, in elongated specimens the upper leaves small and distant. Peduncles axillary, longer than the leaves, 1-flowered or the lower ones rarely branching out into a several-flowered cyme. Bracteoles large, foliaceous, ovate-oblong or lanceolate. Calyx-lobes linear, from scarcely longer than the tube to 3 or 4 times that length. Corolla often above 1 in. long, the wings of the lobes broad and elegantly marked with transverse veins. Anthers tipped with a tuft of short bristles. Ovary 2-celled. Inclusion with a dense tuft of hairs on the back, the margin minutely ciliate. Fruit ovoid or oblong, 3 to $3\frac{1}{2}$ lines long, the drupe verrucose within the calyx-tube. Seeds oblong, the embryo terete, nearly as long as the albumen.—*DC. Prod.* vii. 511; *S. calliptera*, Benth. in *Hueg. Enum.* 70; *DC. l. c.* 511; *S. macro-poda*, *DC. l. c.* 509; *S. Benthania*, *De Vr. in Pl. Preiss. i.* 411; *Molkenboeria striata*, *De Vr. Gooden.* 42.

W. Australia. King George's Sound and neighbouring districts, *R. Brown* and others, and thence to Vasse and Swan Rivers, *Drummond, 1st Coll., 2nd Coll. n.* 18, *3rd Coll. n.* 392, *Preiss, n.* 1508, 1520, *Oldfield*, and others; Champion Bay, *Oldfield*; eastward to Lake Leven and Salt River, *Maxwell*.

S. macrodonta, *DC. Prod.* vii. 511; *De Vr. in Pl. Preiss. i.* 411, appears to me to be the same plant. The wings of the corolla-lobes are said to be without veins, but that is not the case either in *A. Cunningham's* specimens from King George's Sound or in *Preiss's* specimens described by *De Vriese*.

7. **S. phlebopetala**, *F. Muell. Fragm.* ii. 18. A scabrous-pubescent or hispid herb, with diffuse, procumbent or elongated and flexuose stems, closely allied to *S. striata*, with the same inflorescence, and transverse veins to the wings of the corolla-lobes, but the leaves are narrower, the lower ones sometimes obovate, the upper ones all narrow, oblong-lanceolate or linear, and the bracteoles are always linear, sometimes very small, sometimes as long as the calyx or longer. Flowers rather smaller than in *S. striata*, and apparently of a deeper blue, the wings also deeply coloured.

W. Australia, *Drummond, n.* 189, 393, or 399; Murchison river, *Oldfield and Walcott*. Probably a variety of *S. striata*.

8. **S. pilosa**, *Benth. in Hueg. Enum.* 69. Herbaceous, but with a hard, almost woody rootstock or sometimes suffruticose, erect, 1 to 3 ft. high, hispid with spreading hairs. Lower leaves petiolate, obovate or oblong, coarsely toothed, 2 or 3 in. long, upper ones much smaller, sessile, and stem-clasping, from broadly oblong-cuneate to lanceolate. Peduncles axillary, longer than the leaves, 1-flowered. Bracteoles large, ovate or broadly lanceolate. Calyx-tube oblong or obovoid, pubescent, the lobes either about half as long as the breadth of the tube or quite obsolete. Corolla like that of

S. hispida, blue, the wings of the lobes without transverse veins, and the lobes more or less fringed at their junction. Anthers tipped with a minute tuft of hairs. Ovary 2-celled. Fruit not seen.—DC. Prod. vii. 511; *Molkenboeria pilosa*, De Vr. Gooden. 39. t. 7; *M. semiamplexicaulis*, De Vr. Gooden. t. 5, as to the plate, but not the description, p. 41.

W. Australia. Swan River, *Huegel*, *Drommond*, 1st Coll. and n. 393; Harvey river, *Oldfield*.

S. membranacea, Benth. in *Hueg. Enum.* 69; DC. Prod. vii. 511; *Molkenboeria membranacea*, De Vr. Gooden. 40, appears to be only a slight variety of *C. pilosa*, with broader and thinner leaves.

9. **S. hispida**, *Cav. Ic.* vi. 7. t. 510. Herbaceous, apparently annual, scabrous-pubescent or hirsute with spreading hairs, the stems erect or branching at the base, 1 to 2 ft. high. Leaves linear or lanceolate and sessile or the lower ones narrow-oblong, and contracted into a petiole, entire or the broader ones remotely toothed, the larger ones 2 or 3 in. long, the upper ones smaller. Peduncles axillary, as long as or longer than the leaves, 1-flowered or the lower ones bearing 3 or sometimes a cyme of several flowers. Bracteoles leafy, linear. Calyx-lobes linear, much longer than the tube. Corolla $\frac{3}{4}$ to 1 in. long, the wings of the lobes broad, but without transverse veins. Anthers tipped with a tuft of minute bristles. Indusium densely hairy on the back at the base, the margin ciliate. Ovary 2-celled. Drupe oblong, about 3 lines long. Seeds oblong, the embryo nearly terete.—R. Br. Prod. 586; DC. Prod. vii. 511; *Goodenia ramosissima*, Sm. in Tr. Linn. Soc. ii. 349, and Specim. Bot. Nov. Holl. t. 5; *Merkusia hispida*, De Vr. Gooden. 62.

Queensland. Near Brisbane, *W. Hill*.

N. S. Wales. Port Jackson to the Blue Mountains, very common, *R. Brown*, *Sieber*, n. 225, and many others.

Victoria. Merriman's Creek, Gipps' Land, rare, *F. Mueller*.

10. **S. apterantha**, *F. Muell. Fragm.* i. 121. An erect, hispid, branching herb, apparently annual, about 1 ft. high, closely resembling *S. hispida*. Leaves linear or lanceolate, entire or sparingly toothed, the larger ones 2 or 3 in. long. Inflorescence, bracteoles, and flowers of *S. hispida*, except that the corolla is rather smaller, and the wings of the lobes are exceedingly narrow or scarcely developed. Anthers tipped with minute bristles. Indusium nearly glabrous, the margin ciliate. Ovary 2-celled.

Victoria. Ranges beyond the Snowy River, *F. Mueller*. This may prove to be a variety of *S. hispida*.

11. **S. Hookeri**, *F. Muell.*; *Hook. f. Fl. Tasm.* i. 231. t. 67. Prostrate or creeping, much branched, rooting at the nodes, more or less hirsute or rarely almost glabrous. Leaves ovate obovate spatulate or oblong, irregularly toothed or rarely entire, narrowed at the base or shortly petiolate, in many specimens scarcely $\frac{1}{2}$ in. long, in luxuriant ones 1 in. or more. Pedicels 1-flowered, axillary, rarely as long as the leaves. Bracteoles leafy, ovate or oblong. Calyx-lobes obsolete or very rarely one of them elongated. Corolla of a dirty white, 3 or 4 lines long, pubescent outside. Anthers without terminal tufts. Ovary 2-celled. Style hairy. Indusium not at all



or very minutely ciliate. Fruit ovoid, slightly rugose, about $1\frac{1}{2}$ lines long. —*Merkusia Hookeri*, De Vr. Gooden. 56. t. 12.

N. S. Wales. Bogs, Blue Mountains, *A. and R. Cunningham*.

Victoria. Marshy places, mouth of Albert river (very luxuriant), Australian Alps at an elevation of 4000 to 6000 ft., snowy plains at the sources of the Yarra, summit of Mount Useful, Munyong Mountains, etc., *F. Mueller*.

Tasmania. Marshy places, Rocky Cape, Mount Wellington, Hampshire Hills, etc., *J. D. Hooker*.

12. ***S. parvifolia*, F. Muell. Herb.** An erect, much branched, villous herb or undershrub, the specimens all under 1 ft. high. Leaves lanceolate or oblong-linear, obtuse, the longest under $\frac{1}{2}$ in., and mostly reduced to small bracts. Flowers solitary on rigid, axillary peduncles of $\frac{1}{2}$ in. or more. Bracteoles very small. Calyx-lobes lanceolate, shorter than the tube. Corolla about $\frac{1}{2}$ in. long, hairy outside; wings of the lobes narrow. Anthers with a small, glabrous point. Ovary 2-celled. Style hairy; indusium nearly glabrous, ciliate.

N. Australia. Hooker's Creek, *F. Mueller*.

13. ***S. restiacea*, Benth.** Glabrous or nearly so. Stems elongated, rigid, terete, striate, rush-like, but branching. Leaves all reduced to minute, distant, acute scales. Flowers solitary and sessile at the nodes, with minute, scale-like bracts at their base. Calyx-lobes linear, rigid, as long as the tube. Corolla 6 to 7 lines long, bearing rigid, appressed hairs outside, the lobes all equally winged and apparently nearly equal. Ovary 2-celled. Indusium not seen. Fruit oblong, about 2 lines long, rugose and hispid with short, incurved hairs.

W. Australia, *Drummond*, 5th Coll. n. 169. I have seen several specimens, but with only very few scattered fruits, and on one in the Hookerian herbarium are two much-injured flowers.

14. ***S. depauperata*, R. Br. App. Sturt's Exped. 20.** A glabrous herb or undershrub, probably tall, with long, spreading, rigid branches. Lower leaves unknown, upper ones reduced to small, distant, linear, recurved, rigid bracts. Flowers solitary or few, in irregular cymes, on long, rigid, axillary, divaricate peduncles (ultimate branches of R. Br.), and pedicellate above the small bracteoles. Calyx-limb campanulate, 5-lobed, at least as long as the adnate tube. Corolla about $\frac{3}{4}$ in. long, pubescent outside, the tube very villous inside, the wings of the lobes ciliate. Ovary 2-celled. Style nearly glabrous, except a dense tuft of hairs on the back of the indusium at its base, the margin of the indusium ciliate. Fruit unknown. —*Merkusia?* *depauperata*, De Vr. Gooden. 74; *Scævola patens*, F. Muell. Fragn. iii. 33.

S. Australia. Cooper's Creek, *Wheeler* (a single specimen in Herb. Mueller); salt ground in lat. 26° , *D. Sturt*. I have not seen this specimen, but Brown's description leaves no doubt as to its identity.

15. ***S. tortuosa*, Benth.** A small perennial, with rigid, tortuous, erect stems of 3 or 4 in. Radical leaves petiolate, oblong or linear, entire or rarely minutely toothed, pubescent, about 1 in. long, those of the stem all reduced to minute scales or one or two at the base more developed. Peduncles

1-flowered, radical or in the lower axils, rigid, 1 to 2 in. long, with a pair of small, linear bracteoles close under the flower. Calyx-lobes lanceolate, nearly as long as the tube. Corolla hairy outside, nearly $\frac{3}{4}$ in. long. Ovary 2-celled. Indusium with a tuft of rather long hairs on the back at the base. Fruit unknown.

W. Australia. *Dunn and, Ath. Coll. n. 191.* These specimens were referred by De Vries in Herb. Hook. and Gooden. 189 to *Anthotium humile*, to which they bear no resemblance whatever.

16. **S. Cunninghamii**, DC. *Prod.* vii. 508. Apparently an undershrub or shrub, the typical form glabrous or nearly so. Leaves linear or linear-lanceolate, entire, the lower ones narrowed into a petiole and $1\frac{1}{2}$ to 2 in. long, the upper ones passing gradually into small bracts. Peduncles axillary, mostly nearly as long as the leaves, and bearing a cyme of 3 flowers, the central one sessile, a few of the upper ones short and 1-flowered. Calyx-lobes broadly ovate, very obtuse, shorter than the tube. Corolla 6 to 7 lines long, nearly glabrous outside, the tube hairy inside; lobes very narrow. Ovary 2-celled. Style slightly hairy. Indusium ciliate. Unripe fruit nearly globular. *S. Maitlandi*, F. Muell. in Trans. Edinb. Bot. Soc. vii. 497.

N. Australia. Dampier's Archipelago, *A. Cunningham*; Nichol Bay, *Gregory's Expedition*.

Var. *hispida*. Villous all over with rigid hairs, the other characters the same.—Nichol Bay, *Gregory's Expedition*; Depuech Island, *Bynoe*.

17. **S. collaris**, F. Muell. *Rep. Babb. Exped.* 15. Quite glabrous and smooth, apparently a shrub or undershrub. Leaves linear or linear-lanceolate, entire, thick, 1 to 2 in. long. Flowers axillary, solitary or clustered in the lower axils, the common peduncle not developed, but the pedicels elongated, with minute bracteoles at their base. Calyx-tube elongated, contracted at the top, the lobes very small, acute. Corolla (yellowish, *F. Muell.*) about 5 lines long, glabrous outside, the tube slightly pubescent inside. Style hairy. Drupe ovoid, 2-celled, about $\frac{1}{2}$ in. long, including the long neck into which it is contracted, endocarp hard, prominently ribbed, exocarp succulent, not thick. Seeds oblong, the embryo nearly terete.

S. Australia. Sand ridges near Woomoolka in the N. interior, *Babbage's Expedition*, also from *McDonall Stuart's Expedition*. The specimens are in fruit, and I have only seen the fragments of the flower described by *F. Mueller*, who found the indusium without cilia.

SECT. IV. XEROCARPEÆ, *Don*.—Herbs undershrubs or shrubs. Flowers sessile or nearly so in the axils of floral leaves or bracts, solitary or the lower ones very rarely in clusters of 2 or 3, the upper ones forming a terminal spike, either dense with short bracts or interrupted and leafy.

SERIES 1. GLOBULIFERÆ.—Ovary 2-celled. Hairs on the back of the indusium short or few and scattered. Flowers rather large (usually blue), with rows of soft bristles or subulate teeth, tipped with minute, white tufts descending in the throat of the corolla from the margins of the lobes.

18. **S. angulata**, R. Br. *Prod.* 586. Tall, erect and branching, gla-

brous or hirsute with long, spreading hairs. Lower leaves ovate-lanceolate, acute, entire or with a few coarse teeth, usually contracted at the base, but almost sessile, 1 to 2 in. long, upper ones sessile, from ovate to lanceolate, entire, rounded or cordate at the base, under 1 in. long, the floral ones or bracts almost as long as the flowers. Flowers almost sessile, distant, forming an interrupted, leafy spike, the lower ones or nearly all distant. Bracteoles lanceolate, often as long as the bracts. Calyx-limb campanulate, lobes lanceolate. Corolla glabrous outside, about 7 lines long or rather more, with long, subulate teeth or soft bristles descending in the throat from the margins of the lobes. Style glabrous or hairy; indusium ciliate. Ovary 2-celled.—DC. Prod. vii. 511; *Merkusia angulata*, De Vr. Gooden. 69.

N. Australia. South Goullurn Island, *A. Cunningham*; islands of the Gulf of Carpentaria, *R. Brown*.

19. **S. nitida**, *R. Br. Prod.* 584. An erect undershrub or shrub, attaining 3 or 4 ft., quite glabrous, and sometimes viscid. Leaves mostly petiolate, oval-elliptical or lanceolate, 2 to 3 in. long, more or less toothed, the upper ones smaller and narrower, the floral ones all but the lowest reduced to lanceolate or linear, entire bracts, rarely exceeding 6 lines. Flowers sessile, in rather dense spikes of 2 to 6 in. Bracteoles small, narrow-linear. Calyx-limb a very short, truncate ring. Corolla (white? or pale blue?) 6 to 8 lines long, glabrous outside, with rather numerous, long teeth or soft bristles, tipped with minute tufts, descending in the throat from the margins of the lobes. Ovary 2-celled. Style slightly hairy. Indusium ciliate. Seeds ovoid-oblong, about 2 lines long.—DC. Prod. vii. 509; *Merkusia nitida*, De Vr. Gooden. 73; *Scævola multiflora*, Lindl. Swan Riv. App. 26; *Merkusia multiflora*, De Vr. Gooden. 48; *Scævola Drummondii*, DC. Prod. vii. 508.

W. Australia. King George's Sound, *R. Brown*, *A. Cunningham*, and others, to Swan River, *Fraser*, *Drummond*, 1st Coll., and others; Géographie Bay, Gordon, Chapman, and Blackwood rivers, *Oldfield*.

S. fastigata, De Vr. in Pl. Preiss. i. 406, or *Merkusia fastigata*, De Vr. Gooden. 48, from Bald Head, *Preiss*, n. 1491, which I have not seen, is, from the short characters given, most likely to be *S. nitida*.

20. **S. globulifera**, *Labill. Pl. Nov. Holl.* i. 55. t. 78. A glabrous undershrub of 1 to 2 ft., growing sometimes into a shrub of twice that height. Leaves linear or lanceolate, rather thick, entire or when broad slightly toothed, narrowed below the middle but shortly dilated and stem-clasping at the base, the longer ones 2 to 3 in. long, the floral ones or bracts linear lanceolate, the upper ones shorter than the flowers, glabrous or ciliate with a few hairs. Flowers sessile in a terminal spike, at length long and interrupted with the lower ones distant. Calyx-limb broadly cup-shaped, sinuate-toothed, nearly half as long as the tube. Corolla (blue?) 8 to 9 lines long, glabrous outside, with long subulate teeth or bristles tipped with a minute white tuft descending in the throat from the margins of the lobes. Ovary 2-celled. Style slightly hairy, especially at the top. Indusium glabrous, ciliate. Fruit ovoid, rugose, the mesocarp having (at least in the dried state) 2 spurious empty cells often as large as the real ones and alternating with them, but sometimes irregular.—*R. Br. Prod.* 584; DC.

Prod. vii. 508; *Merkusia globulifera*, De Vr. Gooden. 52; *Scævola cæspitosa*, R. Br. Prod. 585; DC. Prod. vii. 510; *Merkusia cæspitosa*, De Vr. Gooden. 63 (partly, for *Goodenia barbata* and several other plants are so named by him in Herb. Hook.).

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Preiss*, n. 509; eastward to Cape Knobb and Cape le Grand, *Maxwell*.

Var. ? *humilis*. More branching and slightly hairy, the specimens 6 to 8 in. high. Leaves smaller and occasionally toothed, but otherwise apparently the same.—W. Australia, *Drummond*.

21. ***S. porocarya***, *F. Muell. Fragm.* ii. 19. A single specimen in fruit only, closely resembling some specimens of *S. globulifera*, but the fruit is much larger (about 4 lines diameter), globular, very smooth but marked with longitudinal striæ, the endocarp thick and hard, with 2 or more irregular empty cavities besides the 2 perfect cells.

W. Australia. Murchison river, *Oldfield* (*Herb. F. Mueller*).

22. ***S. attenuata***, *R. Br. Prod.* 583. An erect shrub or undershrub of 1½ to 2 ft., hirsute with rigid scattered hairs. Leaves petiolate, the larger ones broadly lanceolate, bordered by a few acute teeth, strongly veined, 2 to 3 in. long, the upper ones linear or linear-lanceolate, mostly entire. Flowers sessile in terminal leafy spikes, at length long and interrupted, with the lower ones distant. Bracts linear, the lower ones exceeding the flowers, the upper ones small; bracteoles linear, small. Calyx-limb prominent, annular, sinuate. Corolla blue, about ¾ in. long, hairy inside, with rather numerous subulate teeth or soft bristles tipped with minute white tufts descending in the throat from the margins of the lobes. Ovary 2-celled. Style very hairy. Indusium ciliate.—DC. Prod. vii. 508; *Bot. Mag.* t. 4196; *Merkusia attenuata*, De Vr. Gooden. 61.

W. Australia. King George's Sound, *R. Brown*, *Baxter*. A specimen from Cape Naturaliste, *Oldfield* (*Herb. F. Muell.*), appears to be the same.

23. ***S. glandulifera***, *DC. Prod.* vii. 510. An erect rigid herb or undershrub, with the scabrous rigid hairs, foliage, and inflorescence of *S. anchusæfolia*, but the flowers are larger (the corolla ¾ to 1 in. long) and the whole inflorescence as well as the outside of the corolla are pubescent with glandular hairs intermixed with the rigid ones, and the drupe is prominently ribbed, but otherwise smooth or nearly so.—*S. rufa*, De Vr. in *Pl. Preiss.* i. 405; *Merkusia glandulifera*, De Vr. Gooden. 67.

W. Australia. Swan River, *Drummond*, 1st Coll. often mixed with *S. anchusæfolia* and *S. longifolia*, also n. 39; Kalbar, Tone, and Gordon rivers, *Oldfield*; Mount Barker, *F. Mueller*; Mount Barren flats and Salt River, *Maxwell*. The character derived from the fruit has only been observed in very few specimens, the glandular pubescence appears to be constant.

24. ***S. anchusæfolia***, *Benth. in Hueg. Enum.* 68. An erect or more rarely procumbent or prostrate herb or undershrub, scabrous and hirsute with spreading hairs. Leaves linear or oblanceolate, entire or coarsely toothed when broad, 1 to 2 in. long or sometimes more, mostly narrowed into a petiole and partly dilated at the base, the floral ones or bracts linear,

under $\frac{1}{2}$ in. long. Flowers blue, sessile or nearly so in a terminal leafy spike. Bracteoles linear, much smaller than the bracts. Calyx-limb obsolete. Corolla $\frac{1}{2}$ in. long or rather longer, more or less hairy outside but not glandular, with subulate teeth or soft bristles tipped with minute tufts descending in the throat from the margins of the lobes. Ovary 2-celled. Style hairy. Indusium pubescent, ciliate. Fruit ovoid, very rugose, 2 to 3 lines long, the thick hard pericarp showing 2 or more empty cavities nearly as large as the true cells.—DC. Prod. vii. 510; *Merkusia anchusaeifolia*, De Vr. Gooden. 65 (partly, several other plants being so named by him in Herb. Hook.).

W. Australia. Swan River, *Huegel, Drummond, 1st Coll.*

25. **S. holosericea**, *De Vr. in Pl. Preiss.* i. 408. An erect undershrub of 1 to 2 ft., densely villous with rather soft or more rigid hairs. Leaves petiolate, lanceolate, entire or remotely toothed, rather thick, the larger ones 2 in. long or more, passing into the linear or linear-lanceolate floral leaves or bracts of which the uppermost are shorter than the flowers. Flowers blue, sessile in a terminal leafy spike, at length much elongated. Bracteoles linear. Calyx-limb broadly cup-shaped, truncate or sinuate-toothed. Corolla nearly $\frac{3}{4}$ in. long, hairy outside, with numerous subulate teeth or soft bristles tipped with minute tufts descending in the throat from the margins of the lobes. Ovary 2-celled. Style very villous. Indusium ciliate. Fruit not seen.

W. Australia. Swan River, *Preiss, n.* 1478, 1512; Coogee, *Oldfield*. This species is closely allied on the one hand to *S. anchusaeifolia*, on the other to *S. suaveolens*, but can scarcely be united with either. *S. sphaerocarpa*, De Vr. in *Pl. Preiss.* i. 409, from Swan River, *Preiss, n.* 1512, of which I have only seen an imperfect specimen, appears to be the same.

26. **S. suaveolens**, *R. Br. Prod.* 585. A prostrate or decumbent hard perennial or undershrub, extending sometimes in dense masses for several feet, more or less clothed with appressed silky hairs or rarely glabrous. Leaves petiolate, from obovate to oblong-spathulate, quite entire, thick, the larger ones 2 to 3 in. long, the upper ones smaller or linear when on elongated branches. Flowers blue, sessile in interrupted terminal hirsute spikes, the bracts oblong-linear, shorter than the flowers, the bracteoles still smaller and linear. Calyx-limb broadly cup-shaped, ciliate, otherwise entire or unequally 5-lobed. Corolla 7 to 8 lines long, villous or rarely nearly glabrous outside, with numerous subulate teeth or soft bristles tipped with minute tufts descending in the throat from the margins of the lobes. Ovary 2-celled. Style slightly hairy. Indusium ciliate, but often on one side only. Drupe sometimes ovoid, rugose, 3 lines long and nearly dry but then evidently unripe; when fully formed, it appears to be much larger with a very succulent exocarp as in *S. Koenigii*.—DC. Prod. vii. 510; *Goodenia calendulacea*, Andr. Bot. Rep. t. 22; *Merkusia suaveolens*, De Vr. Gooden. 62.

Queensland. Near the sea, Sandy Cape, Keppel Bay, Broad Sound, etc., *R. Brown*; Curtis' Island, *Heane, Thozet*; Burdekin Expedition, *Fitzalan*; Moreton Island, *P. Mueller, M'Gillivray*.

N. S. Wales. Seacoast, Botany Bay, *R. Brown*; Manly Beach, *Woolfs*; northward to Clarence river, *Henderson*; Richmond river, *Wilcox*; southward to Kiamia, *Harvey*; Gabo island, *Mapleton*.

Victoria. Port Phillip, *R. Brown*; from the mouth of the Glenelg, *Allitt*, to Wilson's Promontory, *F. Mueller*.

S. Australia. Rivoli Bay and Lake Alexandrina, *F. Mueller*.

SERIES 2. MACROSTACHYÆ. Ovary 2-celled. Hairs on the back of the indusium short or few and scattered. Flowers usually smaller than in the *Globuliferae* (white?), with very few or no penicillate bristles in the throat of the corolla. Fruiting spikes usually continuous or only the lower flowers distant, with small bracts.

27. **S. revoluta**, *R. Br. Prod.* 586. An undershrub or spreading shrub of 2 to 3 ft., softly villous all over and sometimes silky. Leaves from obovate-oblong to cuneate or lanceolate, mostly obtuse, flat or with revolute margins, entire, thick and soft, rarely exceeding $\frac{1}{2}$ in. and mostly shorter, the upper ones passing gradually into oblong-linear bracts, either as long as or shorter than the flowers. Flowers sessile in a terminal leafy spike, sometimes short and interrupted at the base, sometimes very much elongated. Calyx-limb obsolete. Corolla nearly $\frac{1}{2}$ in. long, hairy outside. Ovary 2-celled. Style slightly hairy. Indusium ciliate. Fruit small, oblong, rugose, but not seen ripe.—DC. *Prod.* vii. 510; *Merkusia revoluta*, De Vr. Gooden. 64, partly.

N. Australia. Islands of the Gulf of Carpentaria, *R. Brown*; Sea Range and Upper Victoria river, *F. Mueller*.

28. **S. ovalifolia**, *R. Br. Prod.* 584. An erect branching perennial or undershrub, about 1 ft. high, usually pubescent, sometimes viscid, rarely almost glabrous, of a pale green. Lower leaves petiolate, ovate or obovate, coarsely toothed or sometimes entire, 1 to 2 in. long besides the petiole, upper ones smaller and more sessile; floral leaves or bracts ovate-lanceolate or elliptical, leafy but mostly under $\frac{1}{2}$ in. long, entire or the lower ones toothed. Flowers sessile, in an interrupted leafy spike. Bracteoles linear or linear-lanceolate. Calyx-lobes exceedingly short, rounded. Corolla about $\frac{3}{4}$ in. long, glabrous or pubescent outside. Ovary 2-celled, but one ovule sometimes abortive. Style slightly hairy. Indusium ciliate. Fruit small, ovoid-oblong.—DC. *Prod.* vii. 509; *Merkusia ovalifolia*, De Vr. Gooden. 50.

N. Australia. Sandstone table-land, Upper Victoria river, *F. Mueller*; islands of the Gulf of Carpentaria, *R. Brown*; Sweers Island, *Henne*.

Queensland. Flinders river, *Bowman*.

N. S. Wales. Darling river, *Nielsen*; Mount Goningbery, *Victorian Expedition*.

S. Australia. Cooper's Creek, *Howitt's Expedition*.

29. **S. crassifolia**, *Labill. Pl. Nov. Holl.* i. 56. t. 79. A glabrous shrub, either low and decumbent or very divaricate and attaining 2 or 3 ft. Leaves on rather long petioles, obovate orbicular or spatulate, 1 to 2 in. long, thick and rigid, bordered by small teeth. Flowers sessile or nearly so, in rather dense spikes of 1 to 3 in., of which several together form sometimes a terminal panicle. Bracts linear-lanceolate, entire, rarely above $\frac{1}{4}$ in. long, the bracteoles much smaller. Calyx-limb short, broad, and truncate. Corolla about $\frac{1}{2}$ in. long, glabrous outside. Ovary 2-celled. Style nearly glabrous. Indusium sparingly ciliate. Fruit small, globular or depressed,

and usually slightly compressed, hard, and almost woody.—R. Br. Prod. 584; DC. Prod. vii. 508; *Merkusia crassifolia*, De Vr. Gooden. 46.

S. Australia. S. coast, *R. Brown*; Holdfast Bay, *F. Mueller*; near Adelaide, *Blanfordsky*, Spencer's Gulf, *P. Mueller*; Port Lincoln, *Wilhelmi*; Streaky Bay, *Warburton*.

W. Australia. King George's Sound to Cape Riche, *Barter*, *Harvey*, *Preiss*, n. 1486, and others; Moir's Inlet, *Maxwell*; Swan River, *Fraser*; estuary of Murchison river, *Oldfield*.

30. **S. macrostachya**, *Benth.* A shrub or undershrub, glabrous or sprinkled with rigid hairs, the branches virgate. Leaves linear or lanceolate, rarely above 1 in. long, ciliate with rigid hairs, passing into the floral leaves or bracts, which are mostly nearly $\frac{1}{2}$ in. long, and all rigidly ciliate. Flowers sessile, in long, rather dense, leafy spikes; bracteoles linear, smaller than the bracts. Calyx-limb obsolete. Corolla nearly $\frac{1}{2}$ in. long, hairy outside. Ovary 2-celled. Indusium scarcely ciliate. Fruit oblong, rugose, $1\frac{1}{2}$ lines long and dry, but containing perfect seeds.—*Merkusia macrostachya*, De Vr. Gooden. 51.

N. Australia. Lacrosse Island, Cambridge Gulf, and Regent's River, *A. Cunningham*; Usborne's Harbour, *Bynoe*.

31. **S. longifolia**, *De Vr. in Pl. Preiss.* i. 410. A perennial, with a tufted stock or a very short, woody stem, slightly hairy or glabrous, except the inflorescence, which is always very hirsute. Flowering stems more or less leafy, erect or ascending, attaining usually about 1 ft. Leaves linear or lanceolate, thick, with revolute margins, the lower ones often 4 to 6 in. long, narrowed below the middle, and shortly dilated and sheathing at the base, the upper ones linear-lanceolate, passing into the small, lanceolate bracts. Flowers "dirty white," rather small, sessile in a terminal spike, at first dense, afterwards long and interrupted. Bracteoles linear or linear-lanceolate. Calyx-lobes very short and broad, almost united in a ciliate ring. Corolla about $\frac{1}{2}$ in. long, hairy outside. Ovary 2-celled. Style slightly hirsute upwards; indusium glabrous, ciliate. Fruit not seen.—*Merkusia longifolia*, De Vr. Gooden. 69.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 411; Vasse river, *Preiss*, n. 1472, 1483; Harvey river, *Oldfield*.

S. depressa, De Vr. in *Pl. Preiss.* i. 410; *Merkusia depressa*, De Vr. Gooden. 70, from W. Australia, *Preiss*, n. 1502, which I have not seen, may be the same as *S. longifolia*. The description given answers except as to the calyx-lobes, said to be linear, which is not the case with any species of the group; but, perhaps without examination, De Vriese may have confounded the bracts with the calyx-lobes.

32. **S. lanceolata**, *Benth. in Hueg. Enum.* 69. A perennial, sometimes low and tufted, sometimes erect, branched, and 1 ft. or more high, more or less hirsute, especially the inflorescence. Leaves linear or linear-lanceolate, entire or very rarely with a few remote teeth, the radical ones sometimes above 2 in. long, the stem ones much shorter, dilated and stem-clasping at the base, most of them nearly glabrous and rather thick, the lowest floral ones linear, with rather broad, lanceolate bases, but mostly reduced to ovate or broadly lanceolate, acuminate bracts, nearly as long as the flowers. Flowers nearly sessile, forming a terminal spike, either dense or at

length long and interrupted. Bracteoles linear. Calyx-limb annular or very shortly cup-shaped, sinuate. Corolla about 4 lines long, more or less hairy outside, sometimes with a few penicillate soft bristles at the base of the lobes. Ovary 2-celled. Style shortly hirsute. Indusium shortly ciliate or quite without cilia, at least on one side. Fruit ovoid, ribbed and furrowed, about 2 lines long, but not seen ripe.—DC. Prod. vii. 510; *S. lasiantha*, F. Muell. Fragm. i. 207.

W. Australia. Swan River, *Huegel*; wet places, Kalgan, Gordon, and Vasse rivers and Champion Bay, *Oldfield*; Phillips river, *Maxwell*. Very near *S. longifolia*, differing chiefly in the bracts, and in the shorter cilia of the indusium. From *S. thesioides* it differs in the hairiness, in the bracts, and in the shape of the fruit.

33. ***S. thesioides***, *Benth. in Hueg. Enum.* 68. An erect, glabrous undershrub, attaining 2 or 3 ft. Leaves linear, not crowded, the upper ones very narrow, the lower ones sometimes lanceolate, all obtuse and entire or rarely with 1 or 2 minute teeth, rather thick, 1 to 2 in. long, the floral ones reduced to linear bracts, dilated at the base, 3 or 4 lines long. Flowers small, sessile, in terminal, leafy spikes. Bracteoles linear, dilated at the base, nearly as long as the subtending bract. Calyx-tube shortly pubescent, the limb a scarcely prominent ring, sometimes obscurely lobed. Corolla about 4 lines long, glabrous outside. Ovary 2-celled. Style covered with short hairs. Indusium glabrous, not ciliate. Fruit small, compressed, broader than longer, with a thick, somewhat corky pericarp.—DC. Prod. vii. 508; *S. squarrosa*, Lindl. Swan Riv. App. 26; *S. polystachya*, DC. Prod. vii. 508; *S. paniculata* and *S. flaccida*, De Vr. in Pl. Preiss. i. 407; *Merkusia thesioides*, De Vr. Gooden. 53. t. 11.

W. Australia. Swan River, *Huegel*, *Drummond*, *Preiss.* n. 1516, 1521; Port Gregory and South Hutt river, *Oldfield*; Oldfield and Phillips rivers, *Maxwell*.

SERIES 3. POGOGYNÆ.—Ovary 2-celled. Indusium with a dense tuft of hairs at the base on the back, as long as the indusium itself, and often purple coloured.

34. ***S. macrophylla***, *Benth.* Erect (from a woody stock?), very hispid, 1 to 2 ft. high. Leaves ovate or ovate-lanceolate, acute, mostly toothed, stem-clasping at the base, 1 to 1½ in. long in some specimens, much smaller in others, the upper ones passing gradually into lanceolate bracts. Flowers almost sessile, in a terminal, leafy spike, at first very dense, but afterwards lengthening. Bracteoles linear-subulate. Calyx-lobes exceedingly small, ovate, ciliate. Corolla ¾ to 1 in. long, silky hairy or hispid outside. Style flattened. Indusium almost surrounded at the base by a dense tuft of purplish hairs as long as itself, the margin ciliate with white hairs. Ovary 2-celled. Drupe small, oblong, rugose.—*Molkenboeria macrophylla*, De Vr. Gooden. 44. t. 8.

W. Australia. *Drummond*, 5th Coll. n. 362; Cape Riche, *Maxwell*.

35. ***S. platyphylla***, *Lindl. Swan Riv. App.* 26. Erect, woody at the base, with rigid, herbaceous branches, hispid with spreading hairs or almost glabrous. Leaves sessile and stem-clasping, ovate obovate or oblong, entire or with a few coarse teeth, 1 to 1½ or rarely 2 in. long, the upper floral

ones gradually smaller. Flowers large, sessile or on a very short pedicel, in a terminal, leafy spike. Bracteoles large and leafy. Calyx-lobes very small, ovate, obtuse. Corolla above 1 in. long, silky hairy, the lobes acuminate, winged. Indusium with a very dense tuft of long hairs on the back. Ovary 2-celled. Fruit not seen.—*S. semiamplexicaulis*, DC. Prod. vii. 509; *S. Candollei*, De Vr. in Pl. Preiss. i. 405; *Molkenboeria platyphylla*, De Vr. Gooden. 43. t. 6.

W. Australia. Swan River, *Drummond*, 1st Coll. also n. 15, 391, *Preiss*, n. 1497. Although the flowers are very shortly pedunculate, yet the general inflorescence is much more that of *Xerocarpæa* than of *Pogonantha*.

36. **S. auriculata**, *Benth.* Herbaceous (or suffruticose?), pubescent or hirsute, the stems procumbent or ascending, and often very long. Leaves ovate or obovate, irregularly and coarsely toothed or rarely entire, the lower ones petiolate, the succeeding ones contracted below the middle, but all clasping the stem with broad toothed auricles, the lower floral ones broadly cordate-ovate, the upper ones much smaller, gradually reduced to small bracts. Flowers sessile or the lower ones very shortly pedicellate, the upper ones forming a long, interrupted, leafy spike. Bracteoles leafy. Calyx-limb a minute ring or quite obsolete. Corolla slightly pubescent outside, about $\frac{3}{4}$ in. long or sometimes smaller. Ovary 2-celled. Indusium with a very dense tuft of long hairs on the back at the base. Fruit ovoid-oblong, about 2 lines long.—*M. semiamplexicaulis*, De Vr. Gooden. 41, as to the character and reference to Drummond, but neither the plate (t. 5) nor the synonym of DC. nor *Preiss's* plant.

W. Australia, *Drummond*, 3rd Coll. n. 153. Perongerup and Plantagenet and Stirling Ranges, *Maxwell*. It was by mistake that in *Hueg. Enum.* I placed this in *Pogonantha*: the anthers are not tipped with hairs, and the inflorescence is that of *Xerocarpæa*.

37. **S. æmula**, *R. Br. Prod.* 584. Herbaceous, diffuse, ascending or rarely erect, rather coarse, clothed with rigid, mostly appressed hairs or nearly glabrous. Leaves petiolate, obovate or cuneate, coarsely toothed, the lower ones sometimes 2 or 3 in. long, the upper ones smaller, the floral ones sessile, ovate-oblong or almost lanceolate, entire or with a few teeth. Flowers sessile, in a spike often 8 to 10 in. long, and much interrupted. Bracteoles linear or linear-lanceolate. Calyx-lobes exceedingly short. Corolla hairy outside, 8 to 10 lines or sometimes nearly 1 in. long. Ovary 2-celled. Style glabrous or hairy, but always with a dense tuft of rigid, often purple hairs at the top as long as the indusium. Fruit small, ovoid, rugose.—DC. Prod. vii. 509; *S. sinuata*, *R. Br. Prod.* 584; DC. Prod. vii. 509; *Merkusia sinuata*, De Vr. Gooden. 58; and *M. ? æmula*, De Vr. l. c. 74.

N. S. Wales. Bittangabee Flats, *Mossman*.

Victoria. Yowaka river and Bunyip Creek, *F. Mueller*; mouth of the Glenelg river, *Allitt*; Wimmera, *Dallachy*; Grampians, *Wilhelmi*.

Tasmania, from *Herb. Lindley*.

S. Australia. Port Lincoln, *R. Brown*; Rivoli and Guichen Bay, Flinders and Elder's Ranges and towards Mount Gambier, *F. Mueller*; Mount Seal, *Warburton*; Lake Gillies, *Burkitt*.

W. Australia. Goose Island Bay, *R. Brown*; towards Cape Riche, *Drummond*, 5th Coll. n. 361; Point Henry, *Oldfield*; Cape Arid, *Maxwell*.

The smaller specimens may sometimes be mistaken for *S. microcarpa*, but may be readily known by the tuft of hairs at the back of the indusium, and by the 2-celled ovary.

38. *S. humilis*, *R. Br. Prod.* 585. A low, branching, diffuse perennial, more or less pubescent. Leaves obovate or cuneate, acutely and prominently toothed, the lower ones 1 to $1\frac{1}{2}$ in. long including the petiole, the upper ones passing into the oblong or lanceolate, acute, entire or toothed, sessile bracts. Flowers sessile in a leafy spike, short but interrupted. Bracteoles linear or lanceolate, ciliate. Calyx-lobes small, ovate. Corolla pubescent outside, about $\frac{1}{2}$ in. long. Ovary 2-celled. Style more or less hairy. Indusium with a dense tuft of hairs on the back at the base, as long as the indusium itself, the margin densely ciliate. Fruit ovoid-oblong, about 2 lines long. *DC. Prod.* vii. 509; *Merkusia humilis*, *De Vr. Gooden.* 59.

S. Australia. Spencer's Gulf, *R. Brown*; Woomomulla, *Babbage's Expedition*. The latter specimen agrees in every respect with Brown's, except that the tuft of hairs at the back of the indusium is not quite so long. *F. Mueller*, in *Rep. Babb. Exped.* 15, refers it to *S. microcarpa*; but, besides the difference in foliage, I have always found the ovary of the latter species, as described by Brown, 1-celled, without any trace of dissepiment between the two ovules. *S. humilis* is much more nearly allied to *S. æmula*, and perhaps a variety only.

39. *S. amblyanthera*, *F. Muell. Fragm.* i. 121. A small, erect, branching perennial, shortly villous all over like *S. revoluta*. Leaves obovate-cuneate, entire, rather thick and soft, all under $\frac{1}{2}$ in. long in the single specimen seen, the floral ones similar, but smaller. Flowers sessile. Bracteoles very small. Calyx-limb obsolete. Corolla pubescent outside, nearly $\frac{1}{2}$ in. long. Ovary 2-celled. Style with a dense tuft of long, purplish hairs behind the indusium, which is ciliate with long hairs. Fruit small, ovoid-oblong, slightly tuberculate.

N. Australia. Granite valleys of the Upper Nicholson river, Gulf of Carpentaria, *F. Mueller*. The fragmentary specimens preserved have much the aspect of *S. revoluta*, but with smaller leaves, and readily distinguished by the tuft of hairs at the back of the indusium.

SERIES 4. MONOSPERMÆ.—Ovary 1-celled, with 2 ovules often so closely appressed as to appear at first like a single one. Fruit usually small and one-seeded, or rarely both seeds ripen.

40. *S. microphylla*, *Benth.* A diffuse, prostrate or ascending, pubescent or hirsute perennial, but apparently flowering also the first year, the stems and branches slender, but often above 1 ft. long. Lower leaves petiolate, obovate or oblong, 1 to $1\frac{1}{2}$ in. long, the others smaller, sessile, and clasping the stem with broad auricles, all coarsely toothed, the floral ones cordate-ovate or ovate-lanceolate, entire or nearly so, mostly about $\frac{1}{4}$ in. long. Flowers almost sessile, in a long, interrupted, leafy spike. Bracteoles leafy, ovate-lanceolate. Calyx-lobes small, ovate. Corolla sparingly pubescent outside, under $\frac{1}{2}$ in. long. Ovary 1-celled, with 2 ovules. Style with a dense tuft of hairs at the back of the indusium, as long as the indusium itself, which is ciliate. Fruit ovoid-oblong, about 1 line long, smooth, but not seen quite ripe.—*Molkenboeria microphylla*, *De Vr. Gooden.* 44. t. 9.

W. Australia. Swan River, *Fraser, Drummond, n.* 187, 190. Karri Dale, *Walcott*. In many respects near *S. auriculata*, but the leaves and flowers smaller, and the ovary, in numerous specimens examined, never showed any trace of dissepiment between the ovules. The "semen longitudine sectum," f. 10 of De Vriese's plate is evidently one of the unripe seeds separated from the other, and showing at the base the minute placenta, which the author appears to have mistaken for the embryo.

41. **S. cuneiformis**, *Labill. Pl. Nov. Holl.* i. 56. t. 80. Herbaceous, apparently annual, clothed with short, appressed hairs or nearly glabrous. Stems erect or ascending, $\frac{1}{2}$ to 1 ft. high. Leaves petiolate, the lower ones obovate, attaining often 2 in., the upper ones oblong-cuneate, passing into the sessile, ovate-oblong or broadly lanceolate bracts, which are mostly under $\frac{1}{2}$ in. long and quite entire. Flowers sessile, in a long, interrupted spike. Bracteoles broadly lanceolate. Calyx-lobes very small, ovate. Corolla slightly pubescent outside, 7 to 8 lines long. Ovary 1-celled, with 2 ovules. Indusium with a dense tuft of usually purplish hairs at the base on the back, as long as the indusium itself. Fruit small.—R. Br. Prod. 584; DC. Prod. vii. 509; *Merkusia cuneiformis*, De Vr. Gooden. 54.

W. Australia, *Labillardière*. Cape Arid and Cape le Grand, *Maxwell*. Although I have not seen *Labillardière*'s specimens, his figure and description leave no doubt as to the identity of the species. The leaves are nearly those of *S. amula*, but more glabrous. The ovary is always 1-celled, as in *S. microphylla*, but the foliage is very different.

42. **S. microcarpa**, *Cav. Ic.* vi. 6. t. 509. A procumbent, diffuse or ascending, very rarely almost erect perennial, more or less pubescent. Leaves petiolate, obovate ovate or cuneate, coarsely toothed, the lower ones often 1 to $1\frac{1}{2}$ in. long, the upper ones smaller, passing into the sessile, ovate-oblong or lanceolate, entire or toothed floral leaves or bracts, which are mostly shorter than the flowers. Spike usually long and interrupted. Bracteoles linear. Calyx-lobes small, ovate. Corolla hairy outside, 7 to 9 lines long in the typical form, the lobes fringed at the base with a few long cilia, sometimes penicillate, and descending into the throat as in the *Globulifera*. Ovary 1-celled, with 2 ovules. Style more or less hairy. Indusium glabrous, ciliate. Fruit small, usually 1-seeded.—R. Br. Prod. 585; DC. Prod. vii. 509; *Goodenia albida*, Sm. in Trans. Linn. Soc. ii. 348; *G. lavigata*, Curt. Bot. Mag. t. 287; *Merkusia microcarpa*, De Vr. Gooden. 55.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; Glendon and Newcastle, *Leichhardt*; Macleay and Clarence rivers, *Beckler*; New England, *C. Stuart*.

Victoria. Portland forest, *Herb. F. Mueller*.

S. Australia. Burra-Burra, *Hinteracker*; Port Adelaide, *Blandowsky*.

Var. *pallida*. More diffuse and smaller, the flowers smaller, the corolla under $\frac{1}{2}$ in. long, and nearly glabrous outside; style glabrous or nearly so.—*S. pallida*, Br. Prod. 585; DC. Prod. vii. 510; *Merkusia pallida*, De Vr. Gooden. 56.—Port Phillip, *R. Brown*; seacoast from Wilson's Promontory to the Glenelg, *F. Mueller* and others; Rivoli Bay and Onkaparinga, *F. Mueller*. Compared with the common large-flowered N. S. Wales form, this plant looks very different, but the flowers vary much in size, and the character indicated of the glabrous styles is not constant, for some of the S. Australian small-flowered specimens (e. g. from Holdfast Bay, *Whittaker*) have the flowers of *S. pallida*, with the very hairy style of *S. microcarpa*.

Goodenia pubescens, Sieb. Fl. Mixt. n. 608, is referred by F. Mueller, and probably correctly, to *S. microcarpa*, but the specimens I have seen have no flowers.

43. **S. linearis**, *R. Br. Prod.* 586. A diffuse undershrub or spreading shrub, more or less villous. Leaves sessile, linear or linear-lanceolate, obtuse, with revolute margins, the larger ones 1 in. long, the axils not woolly, the floral ones similar or more lanceolate and smaller. Flowers sessile in the upper axils, forming an interrupted, leafy spike. Bracteoles linear. Calyx-limb very short, annular, sinuate. Corolla pubescent outside, 6 to 7 lines long, with the penicillate cilia in the throat of *S. microcarpa*. Ovary 1-celled, with 2 ovules. Style slightly hairy. Indusium shortly ciliate. Fruit oblong, about $1\frac{1}{2}$ lines long.—DC. *Prod.* vii. 510; *Merkusia linearis*, De Vr. Gooden. 67.

S. Australia. Port Lincoln, *R. Brown, Wilhelmi*; Encounter Bay, *P. Mueller*; Kangaroo Island, *Waterhouse*. In this species and in *S. paludosa* Brown describes the ovary as monospermous. I have always found in the ovary 2 ovules closely appressed to each other without any trace of dissepiment, but only one of them appears to enlarge, so as to leave the fruit monospermous.

44. **S. Oldfieldii**, *F. Muell. Fragm.* ii. 19. An erect or divaricate shrub of several ft., closely allied to *S. paludosa*, but quite glabrous except the inflorescence. Leaves from oblong-lanceolate to linear-lanceolate, acute, narrowed into a long petiole, the larger ones 2 to 3 in. long, a few of the lower ones sometimes smaller and obovate, the floral ones small, narrow, with broad, sheathing bases, all entire or very rarely when broad with a few teeth. Spikes dense, axillary, and leafy, always shorter than the subtending leaves, the flowers sessile. Bracteoles linear, dilated and sheathing at the base. Calyx-limb exceedingly short and truncate. Corolla 6 to 8 lines long, silky-pubescent outside. Ovary 1-celled, with 2 ovules. Indusium glabrous, shortly ciliate. Fruit small, oblong.

W. Australia. Murchison river, *Oldfield*. Very closely allied to *S. paludosa*, and perhaps only a large-flowered, glabrous variety.

45. **S. paludosa**, *R. Br. Prod.* 586. A spreading decumbent or prostrate hard perennial or undershrub, more or less hirsute with appressed hairs or rarely nearly glabrous. Leaves from linear-lanceolate to oblong-lanceolate, acute, narrowed into a long petiole, the larger ones 2 to 3 in. long, the floral ones much smaller and dilated at the base, all entire. Spikes dense, axillary, leafy, always shorter than the subtending leaves. Flowers sessile. Bracteoles linear with dilated sheathing bases. Calyx-limb exceedingly short and truncate. Corolla under $\frac{1}{2}$ in. long, pubescent outside. Ovary 1-celled, with 2 ovules. Indusium glabrous, shortly ciliate. Fruit small.—DC. *Prod.* vii. 511; *Merkusia paludosa*, De Vr. Gooden. 68.

W. Australia King George's Sound, *R. Brown*.

Var. *prostrata*. Stems long and prostrate.—*S. repens*, De Vr. in *Pl. Preiss.* i. 406; *Dampiera repens*, De Vr. Gooden. 114.—Swan River, *Preiss.* n. 1519; *Drummond*, 1st Coll.

46. **S. sericophylla**, *F. Muell. Herb.* An erect shrub of 2 to 3 ft., the branches and foliage hoary or silvery with a very close silky tomentum. Leaves crowded on the short branchlets, obovate-oblong or oblanceolate, obtuse or softly mucronate, narrowed below the middle, rather thick, $\frac{1}{2}$ to 1 in. long. Flowers sessile in the axils, scarcely so long as the

leaves. Bracteoles linear, sheathing and dilated at the base. Calyx-limb almost obsolete. Corolla 6 to 8 lines long, densely tomentose outside, the lobes narrow, winged only in the upper half. Indusium with a tuft of long hairs outside, the margin ciliate. Ovary 1-celled, with 2 ovules.

W. Australia. Murchison river, *Oldfield*. F. Mueller (Fragm. ii. 19), considers this as a variety of *S. Oldfieldi*, but it appears to me to be different in foliage and indumentum, as well as in the tuft of hairs on the back of the indusium.

47. **S. canescens**, *Benth. in Haeg. Enum.* 69. A much-branched shrub or undershrub, densely clothed with a soft stellate tomentum often intermixed with long silky or rarely spreading hairs. Leaves linear-oblong or broadly lanceolate, obtuse, entire, soft and thick, the larger ones 2 or 3 in. long and narrowed into a long petiole dilated and stem-clasping at the base, but mostly shortly narrowed at the base. Flowers in short dense spikes or clusters, sessile in the axils or terminating short axillary branches, the floral leaves or bracts linear, soft, often as long as the flowers. Bracteoles similar to the bracts but smaller. Calyx-limb broadly annular or almost obsolete. Corolla $\frac{1}{2}$ in. long, hairy outside. Ovary 1-celled, with 2 ovules. Style nearly glabrous or with short hairs at the back of the indusium. Fruit small. — DC. Prod. vii. 510; *S. trinervis*, De Vr. in Pl. Preiss. i. 407; *S. glaucescens*, De Vr. l. c. 410; *Dampiera canescens*, De Vr. Gooden. 114. t. 19.

W. Australia. Swan River, *Haeg* 1, *Drummond*, 1st Coll. n. 412, also n. 24 and 25, *Fraser*, *Preiss*, n. 1477, 1479.

One specimen of *Preiss's S. trinervis* is less tomentose, with broader thinner leaves and more developed flowering branchlets, perhaps grown in a less exposed situation; another is like the common form. Some imperfect specimens from Murchison river, *Oldfield*, appear to be a variety with stout, very villous-tomentose branches, the axils very woolly, and with smaller flowers.

48. **S. humifusa**, *De Vr. in Pl. Preiss*. i. 410. A diffuse or prostrate much-branched undershrub or small shrub, slightly pubescent besides the white-woolly axils. Leaves linear with revolute margins, the longer ones above 1 in. long, narrowed below the middle and dilated at the base, but most of them much shorter and densely tufted in the axils of the older ones, sometimes not 3 lines long and buried in the wool, all quite entire and rather thick. Flowers sessile in short dense leafy spikes. Bracteoles linear-lanceolate, with woolly axils. Calyx-limb reduced to a minute ciliate ring or quite obsolete. Corolla 1 to 5 lines long, slightly hairy outside. Ovary 1-celled, with 2 erect ovules. Style slightly hairy. Indusium scarcely ciliate. Fruit small. — *Merkusia humifusa*, De Vr. Gooden. 70.

W. Australia, *Drummond*, plains of the Avon, *Preiss*, n. 1480; Port Gregory and Murchison river, *Oldfield*. I presume this to be the plant intended by De Vriese, from the specimen with *Preiss's* above-quoted number in F. Mueller's Herbarium, and De Vriese's description agrees well in many points, but in others it is totally at variance, taken perhaps from some different species confounded with it. *Merkusia molligera*, De Vr. Gooden. 71, from Swan River, *Drummond*, is a bad specimen apparently of *S. humifusa*.

SERIES 5. PARVIFLORÆ. Ovary 1-celled, 1- or 2-ovulate, the convex summit free. Style covered with short purple glandular hairs. Leaves very narrow. Flowers small and numerous in terminal spikes.

The two following species have both been published as *Goodenias*, to which the only approach seems to me to be the free summit of the ovary. The ovules limited to 2 or 1, and the fruit, a hard indehiscent nut, are entirely those of *Scævola*.

49. **S. fasciculata**, *Benth. in Hueg. Enum.* 68. An erect shrub of 2 or 3 ft., nearly glabrous except some long woolly hairs at the base of the leaves. Branches virgate. Leaves linear almost setaceous, clustered at the nodes, from 2 to 4 lines or rarely $\frac{1}{2}$ in. long, the upper and floral ones similar but less clustered. Flowers small, numerous, sessile in the upper axils, forming a terminal leafy spike. Bracteoles linear, usually unequal. Calyx-lobes linear, as long as the 5-ribbed tube. Corolla about 4 lines long, white, often with dark spots in the throat, glabrous outside, the lobes about as long as the tube, their margins induplicate but not so distinctly winged as in most species. Ovary 1-celled, with a single ovule, the convex summit shortly free within the corolla. Style covered with short dark glandular hairs. Fruit ovoid, 1 to $1\frac{1}{2}$ lines long, rather more than half inferior.—DC. Prod. vii. 508; *Goodenia squarrosa*, De Vr. in Pl. Preiss. i. 413, Gooden. 154. t. 29.

W. Australia. Swan River, *Huegel, Drummond, 1st Coll. and n. 33, Preiss, n. 1467*; Harvey river, *Oldfield*.

50. **S. stenophylla**, *Benth.* An erect glabrous shrub with numerous virgate branches. Leaves rather crowded but not clustered, very narrow linear, almost terete, $\frac{1}{2}$ to 1 in. long or sometimes more, quite entire, the floral ones reduced to short bracts, all but the lower ones scarcely exceeding the calyx. Flowers numerous, sessile or nearly so in terminal spikes. Bracteoles very small. Calyx-tube scarcely $\frac{1}{2}$ line long, the lobes oblong, erect. Corolla glabrous outside, about 5 lines long, the entire part much shorter than the lobes, the adnate part of the tube with a slight concave protuberance on the lower side. Ovary 1-celled, with 2 ovules, the very convex summit free within the corolla. Style hispid with short purple glandular hairs. Indusium very deep, not ciliate. Fruit ovoid, 1 to $1\frac{1}{2}$ lines long, rather more than half inferior. Seeds 1 or 2, oval-oblong, more or less flattened, especially when both ripen, not bordered.—*Goodenia stenophylla*, F. Muell. Fragm. i. 113.

W. Australia, *Drummond, n. 365 and 3rd Coll. Suppl. n. 54*; Young river, Middle Mount Barren, Phillips Range, etc., *Maxwell*.

9. DIASPASIS, R. Br.

Calyx-tube adnate, limb of 5 distinct segments. Corolla oblique, the tube entire, the lobes nearly equal, spreading. Stamens free, entirely included as well as the style in the tube of the corolla. Indusium cup-shaped, entire. Ovary wholly inferior, 1-celled, with 2 erect ovules. Fruit small, ovoid, dry or nearly so, but indehiscent. Seeds of *Scævola*.—Herb with linear leaves. Flowers axillary, pedunculate, solitary between 2 bracteoles.

The genus is limited to a single species, endemic in Australia, closely allied to *Scævola*, differing in the nearly regular corolla enclosing the genitalia in its tube.

1. **D. filifolia**, *R. Br. Prod.* 587. A perennial, glabrous or sprinkled

with short hairs, with a hard stock and erect or ascending wiry stems slightly branched, sometimes all under 1 ft. high, sometimes weaker and 2 ft. long. Leaves linear, almost terete, $\frac{1}{2}$ to $1\frac{1}{2}$ in. long, entire, or the lower ones rarely dilated and bordered by a few teeth. Peduncles rather shorter or longer than the leaves, the linear-terete bracteoles close under the flower. Calyx-lobes ovate, very much shorter than the tube. Corolla $\frac{1}{2}$ to $\frac{3}{4}$ in. long, the lobes longer than the tube, their wings broad and veinless. Indusium more or less hairy, but the margin not ciliate.—DC. Prod. vii. 505; De Vr. Gooden. 178; *Goodenia armeriaefolia*, De Vr. in Pl. Preiss. i. 412, not of DC., *G. glandulifera*, De Vr. Gooden. 129; *Scævola clandestina*, F. Muell. Fragm. i. 206.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Drummond*, *n.* 148, 187, *Preiss*, *n.* 2032, and many others.

10. VERREAUXIA, Benth.

Calyx-tube adnate; lobes 5, free. Corolla-tube slit on the upper side to the ovary, the lobes nearly equal, the 2 upper ones separated rather lower down (arching over the style?), not auriculate, the 3 lower ones spreading, all equally winged. Stamens free. Ovary wholly inferior, 1-celled, with 1 ovule erect from the base. Indusium cup-shaped, enclosing the stigma, the margin ciliate. Fruit small, more or less flattened, indehiscent, usually crowned by the annular persistent base of the corolla. Seed flat, with a thin crustaceous testa. Embryo terete in the centre of the albumen.—Herbaceous or suffruticose plants, stellate-tomentose or woolly. Leaves entire. Flowers in terminal leafless panicles or spikes.

The genus is limited to Australia. With the flowers and flat seeds of *Goodenia*, it has the ovary and fruit of *Dampiera*.

Leaves all radical. Panicle long loose and slender, with filiform cymose branches

1. *V. paniculata*.

Stems leafy. Flowers clustered along a long simple rhachis

2. *V. Reinwardtii*.

1. ***V. paniculata*, Benth.** A perennial, with a thick tufted and densely woolly stock. Leaves all radical, obovate or oval-oblong, obtuse, entire, narrowed into a petiole, thick and softly tomentose or woolly on both sides, $1\frac{1}{2}$ to 3 in. long. Scapes erect, slender, 1 to $1\frac{1}{2}$ ft. high, becoming quite glabrous, leafless or with 1 or 2 very small linear cottony leaves, the branches or peduncles filiform, bearing each a loose cyme of 3 to 7 small (yellow?) flowers, or the uppermost 1-flowered. Bracts minute. Calyx-tube hispid with long purplish hairs intermixed with a close cottony wool; lobes linear-lanceolate nearly as long as the tube. Corolla 3 to 4 lines long, hispid outside with short simple hairs intermixed with a glandular pubescence. Fruit only seen young, but then appears flattened with 1 broad erect flat seed.—*Dampiera Verreauxii*, De Vr. Gooden. 118. t. 20.

W. Australia, *Drummond*, 4th Coll. *n.* 186; sandy plain of Quangen, *Preiss*, *n.* 1454. In *Drummond's* specimens, the only ones I could analyse, the flowers are much injured, and I do not feel certain whether the form and position of the upper lobes of the corolla are the same as in *V. Reinwardtii* or not.

2. ***V. Reinwardtii*, Benth.** An undershrub or shrub of 2 to 3 ft.,

clothed with a close white cottony wool. Leaves obovate to oblong, obtuse, entire, narrowed into a petiole, thick and soft, 1 to 2 in. long or the lower ones larger on long petioles. Flowers yellow, clustered along the rhachis of long interrupted leafless and cottony terminal spikes or the uppermost solitary, all sessile or nearly so. Bracts very small, obtuse. Calyx in some specimens densely cottony, in others hirsute with purplish hairs; lobes linear, shorter than the tube. Corolla 4 to 5 lines long, cottony or hirsute outside. Fruit ovate, flattened, about $2\frac{1}{2}$ lines long, softly tomentose, crowned by the calyx-lobes, with a hard endocarp (the pericarp separating from the calyx-tube?). Seed flat, filling the cavity of the fruit.—*Scaevola Reinwardtii*, De Vr. in Pl. Preiss. i. 409; *Dampiera Reinwardtii*, De Vr. Gooden. 97. t. 15.

W. Australia. *Drummond*, 2nd Coll. n. 404. Champion Bay and Murchison river, *Oldfield and Walcott*. The specimens with the two kinds of indumentum on the flowers are mixed in Oldfield's collections, and I can find no other differences between them.

11. DAMPIERA, R. Br.

(*Linschotenia*, *De Vr.*)

Calyx-tube adnate to the ovary; lobes 5, very small, often concealed under the indumentum or quite obsolete. Corolla-tube deeply slit on the upper side, but usually entire and persistent at the base, the remainder circumsciss and deciduous, 2 upper lobes deeply separated, unequally winged, erect and connivent, enclosing the summit of the style in two thick concave auricles, one on the outer side of each lobe below the wing, the 3 lower lobes broadly winged and spreading. Anthers cohering in a tube round the style. Ovary 1-celled, with 1 erect or ascending straight or recurved ovule, rarely 2-celled with 1 erect ovule in each cell; indusium somewhat 2-lipped, not ciliate. Fruit small and indehiscent. Seed variously shaped; testa rather thin; embryo in the centre of the albumen.—Herbs undershrubs or shrubs, the indumentum usually stellate or branched, cottony or woolly. Leaves entire or obtusely toothed or sinuate. Flowers purple blue or white, rarely yellow, the margins of the corolla-lobes undulate below the wings and forming prominent lines decurrent inside the tube. Peduncles simple or irregularly (mostly cymosely) branched, solitary or clustered in the upper axils or the nearly sessile flowers forming terminal spikes.

The genus is limited to Australia. It is a natural one, readily known by the peculiar auricles of the upper corolla-lobes and coherent anthers combined with the solitary ovules. Several *Goodenias* have indeed auriculate upper corolla-lobes, but the auricles are never so conspicuously concave and thick as in *Dampiera*, and they have always free anthers and a capsular fruit. One species of *Scaevola* has an uniovulate ovary, and in two *Dampiera* it is 2-celled and 2-ovulate, but the two genera are very distinct in their corolla and anthers.

The indumentum in *Dampiera* is almost always more or less stellate, and in many species normally so. Where the hairs appear long and simple they are usually stellate or with short crowded branches at the base, with one branch long and simple; where they are long and plumose, the branches are scattered along the main ones, but yet often more crowded at the base; where the hairs appear strigose and appressed, the branches are few, stellate in principle, but parallel and divaricate in opposite directions or reduced to a single centrally attached (2-branched) hair.

SECT. I. Linschotenia.—Flowers sessile or shortly pedicellate, in terminal, leafless, simple or branched spikes or racemes. Ovary 1-celled, with 1 oblong ovule, laterally attached above the base.—Plants tomentose or woolly.



Spikes branched. Leaves oblong or lanceolate. Eastern species . 1. *D. Linschotenii*.
 Spikes or racemes long and simple. Western species.

Leaves obovate or cuneate 2. *D. spicigera*.
 Leaves linear-terete. Flowers small 3. *D. teres*.

SECT. II. **Dicella**.—*Peduncles axillary, loosely and irregularly cymose. Ovary 2-celled, with 1 erect, linear ovule in each cell. Plants glabrous or nearly so, with angular or winged stems.*

Leaves lanceolate or linear 4. *D. trigona*.
 Leaves ovate 5. *D. prostrata*.

SECT. III. **Camptospora**.—*Peduncles axillary or terminal, 1-flowered or irregularly cymose. Ovary (often oblique or gibbous) 1-celled, with 1 vertical, horseshoe-shaped ovule. (Seeds usually recurved over a spurious, partial dissepiment.)*

Glabrous or nearly so. Branches 2- or 3-winged. Upper leaves few and small.

Leaves oblong or lanceolate. Calyx-tube globular; lobes concealed in the indumentum 6. *D. alata*.

Leaves oblong-cuneate. Calyx-tube gibbous; lobes prominent . 7. *D. coronata*.

Glabrous or nearly so. Branches terete or sulcate. Leaves few, linear-terete. Calyx-tube very gibbous.

Flowers terminal, solitary 8. *D. carinata*.

Peduncles axillary, 2- or 3-flowered 9. *D. sacculata*.

Hairy-tomentose or woolly. Branches terete. Leaves cuneate.

Calyx-tube rather oblique 10. *D. incana*.

SECT. IV. **Eudampiera**.—*Peduncles axillary or terminal, solitary or clustered, 1-flowered or irregularly cymose. Ovary 1-celled, with 1 linear or oblong ovule, erect from the base.*

Leaves flat or with recurved margins, stellate-tomentose underneath or rarely glabrous. Hairs of the flowers plumose.

Weak, trailing herb. Western species 11. *D. hederacea*.

Erect shrubs or undershrubs. Eastern species.

Leaves orbicular, ovate or ovate-lanceolate.

Bracts ovate, leafy 12. *D. ferruginea*.

Bracts minute 13. *D. Brownii*.

Leaves oblong-lanceolate or almost linear 14. *D. lanceolata*.

Leaves flat or with revolute margins, stellate-tomentose underneath or on both sides. Flowers stellate-tomentose.

Leaves nearly flat. Peduncles cymose, with leafy bracts.

Leaves cuneate or narrowed into a petiole. Cymes loose . . 15. *D. altissima*.

Leaves ovate to oblong-elliptical, sessile. Cymes very short . 16. *D. marifolia*.

Leaves mostly narrow, and much revolute.

Peduncles mostly very short. Bracteoles small. Eastern species 17. *D. rosmarinifolia*.

Peduncles mostly longer than the leaves. Bracteoles linear.

Western species 18. *D. lavandulacea*.

Leaves rigid, not revolute, glabrous when full grown or none.

Hairs of the flowers plumose.

Stems terete.

Leaves none or small and linear-terete 19. *D. juncea*.

Leaves few, small, and flat 20. *D. oligophylla*.

Stems very angular. Leaves oblong or cuneate, flat 21. *D. loranthifolia*.

Leaves rigid, flat, glabrous when full grown (except *D. triloba*).

Hairs of the flowers rigidly appressed, with parallel branches.

Stems angular. Leaves sessile.

Calyx-teeth prominent. Leaves oblong or linear.

- Corolla-hairs usually ferruginous. Eastern species . . . 22. *D. striata*.
 Corolla-hairs blackish or lead-coloured. Western species . 23. *D. leptoclada*.
 Calyx-teeth very minute. Western species.
 Leaves obovate or cuneate-oblong. Flowers mostly clustered 24. *D. fasciculata*.
 Leaves oblong-linear. Flowers nearly solitary, forming a long, leafy spike 25. *D. subspicata*.
 Stems terete. Leaves mostly petiolate, broadly cuneate. Calyx-teeth obsolete 26. *D. triloba*.
 Leaves mostly rigid, flat, glabrous when full grown. Hairs of the flowers long, soft, and simple except at the base.
 Calyx-lobes obsolete. Western species.
 Flowers rather large, deep blue, loosely villous, almost corymbose. Leaves thick, linear to cuneate, mostly entire . . . 27. *D. linearis*.
 Flowers rather small, silky hairy. Bracts rigid.
 Leaves petiolate, obovate or cuneate, toothed. Peduncles long, several-flowered 28. *D. cuneata*.
 Leaves sessile, small, oblong-cuneate. Peduncles long, 1- or 2-flowered 29. *D. sericantha*.
 Leaves very rigid, oblong-linear or very small, rarely obovate-oblong, entire. Flowers sessile amongst imbricate bracts 30. *D. parvifolia*.
 Leaves lanceolate or oblong, entire. Peduncles short, 1- or 2-flowered 31. *D. glabrescens*.
 Calyx-teeth prominent. Leaves shortly petiolate, ovate or lanceolate.—Eastern species 32. *D. adpressa*.
 Leaves rigid, acute, flat or concave. Flowers glabrous. Stems prostrate. Calyx-teeth prominent 33. *D. diversifolia*.

SECT. V. **Cephalantha**.—*Leaves radical. Scapes simple or branched. Flowers in dense, terminal heads. Ovary 1-celled, with 1 linear-oblong ovule, erect from the base* 34. *D. eriocephala*.

SECT. I. **Linschotenia**.—Flowers sessile or shortly pedicellate, in terminal, leafless, simple or branched spikes or racemes. Ovary 1-celled, with 1 oblong ovule, laterally attached above the base. Plants tomentose or woolly.

1. **D. Linschotenii**, *F. Muell. Fragm.* vi. 28. Probably a tall undershrub, erect, clothed with a soft, white cotton, very dense on the stems and under side of the leaves, disappearing on their upper surface, mixed on the inflorescence with rather longer hairs. Branches terete. Leaves shortly petiolate, oblong or lanceolate, thick, entire, flat or concave, the lower ones above 2 in. long, the upper ones smaller. Flowers nearly sessile, solitary within each bract, forming long spikes, branching at the base into a pyramidal, leafless panicle. Bracts small, linear or lanceolate; bracteoles very small. Calyx-tube densely covered with long hairs, the lobes obsolete. Corolla 4 to 5 lines long, covered outside with a stellate tomentum, mixed with longer hairs. Upper lobes of the corolla shorter than the others. Ovary 1-celled, with 1 oblong ovule, erect, but attached laterally a little above the base.—*Linschotenia discolor*, De Vr. in Mitch. Trop. Austr. 346; Gooden. 120. t. 22.

Queensland. Near Mount Pluto and Mount Faraday, *Mitchell*. The “paracorollæ cuculliformes,” by which De Vriese proposed to distinguish this plant generically from

Dampiera, are nothing but the auricles of the upper corolla-lobes, one of the principal characters of the whole genus *Dampiera*.

2. **D. spicigera**, *Benth.* An undershrub, with erect, simple or branched stems of $\frac{1}{2}$ to 1 ft., hoary as well as the foliage with a close, stellate or intricate tomentum, disappearing with age from the upper side of the leaves. Leaves obovate-oblong or cuneate, very obtuse, entire or obtusely toothed at the end, coriaceous, flat or concave, under $\frac{1}{2}$ in. long when broad, nearly 1 in. when narrow, the floral ones all reduced to very small bracts. Flowers solitary within each bract, and sessile or nearly so, forming long, terminal, simple spikes. Bracteoles minute or none. Calyx-lobes very small, ovate, almost concealed in the tomentum. Corolla about $\frac{1}{2}$ in. long, clothed with a stellate tomentum, mixed with a few longer, simple hairs. Ovary 1-celled; ovule erect, straight or slightly incurved at the end, laterally attached a little above the base.

W. Australia, *Drummond*, 3rd Coll. n. 154. Included by De Vriese in *D. lauradulacea*, by F. Mueller in *D. incana*.

Var. *lanata*. Stouter, more shrubby, attaining 1 to 2 ft., and very woolly, especially the branches. Flowers rather larger.—Murchison river, *Oldfield*.

3. **D. teres**, *Lindl. Swan Riv. App.* 27. An erect, branching, rather slender undershrub, our specimens not exceeding 1 ft., hoary all over, with a close, minute, stellate tomentum. Leaves linear-terete, obtuse, entire, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Flowers small, blue, in loose, terminal, slender spikes or racemes of 2 to 4 in., each one on a short pedicel in the axil of a small, linear bract, with 2 smaller bracteoles close under the flower. Calyx-lobes erect, small but conspicuous. Corolla 5 to 6 lines long, with the same close tomentum as the rest of the plant. Ovary 1-celled; ovule erect, straight, laterally attached a little above the base.—De Vr. Gooden. 96.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 12.

SECT. II. DICELLA.—Peduncles in the upper axils loosely and irregularly cymose. Ovary 2-celled, with 1 erect, linear ovule in each cell. Plants glabrous or nearly so, with angular or winged stems.

4. **D. trigona**, *De Vr. in Pl. Preiss.* i. 401. Herbaceous and glabrous. Stems diffuse ascending or erect, very angular, slender and weak or rarely rigid, and almost winged. Leaves sessile or petiolate, lanceolate or almost linear, entire or rarely toothed, 1 to 2 in. long, the lower ones sometimes shorter and almost ovate, the upper floral ones small and very narrow. Flowers blue, rather large, on slender, flexuose, branching peduncles in the upper axils, forming a very loose, terminal panicle. Calyx-tube contracted at the top, and apparently continuous with the persistent base of the corolla, without any perceptible lobes. Corolla 7 to 8 lines long, glabrous or sprinkled with appressed hairs. Ovary 2-celled, with 1 linear ovule erect from the base in each cell. Fruit oblong, about 2 lines long, crowned by the persistent base of the corolla. Seeds nearly terete.—Hook. Ic. Pl. t. 1026; *D. biloculata*, F. Muell. Fragm. ii. 17.

W. Australia. Swan River, *Drummond*, 1st Coll.; near Maddington, *Preiss*, n.

1471; Vasse and Blackburn rivers and Cape Leschenault, *Oldfield*; Phillips Flats, *Maxwell*; King George's Sound, *F. Mueller*.

Var. *tennis*. Very slender, with smaller, slender flowers.—*Drummond, Ath. Coll. n. 192*.

De Vriese, *Gooden.* p. 113, reduces this species to *D. coronata*, Lindl., which is, however, widely distinct in habit and structure.

5. **D. prostrata**, *De Vr. Gooden.* 83 (not of *Pl. Preiss.*). Glabrous or nearly so except the inflorescence. Stems broadly and acutely 3-angled, almost winged. Leaves sessile, with a broad base, ovate, acute, acutely toothed or almost lobed, coriaceous and rigid, 1 to $1\frac{1}{2}$ in. long, the lower ones unknown. Peduncles in the upper axils branching and several-flowered, with small, linear bracts. Flowers (blue?) sprinkled with appressed, simple hairs. Calyx-teeth quite obsolete. Corolla fully $\frac{1}{2}$ in. long. Ovary 2-celled, with 1 linear ovule erect from the base in each cell. Fruit not seen ripe, but apparently the same as in *D. trigona*.

W. Australia, *Drummond, n. 364*; Cheynes Beach, *Maxwell*.

SECT. III. CAMTOSPOREA.—Peduncles axillary or terminal, 1-flowered or irregularly cymose. Ovary (often oblique or gibbous) 1-celled, with 1 vertical ovule erect from the base, but recurved into a horseshoe-shape or almost annular. Seed where known recurved over a spurious semidissepiment.

6. **D. alata**, *Lindl. Swan Riv. App.* 27. Glabrous except the inflorescence or slightly silky-pubescent. Stems erect or ascending, not much branched, 1 to 2 ft. high, with 2 or 3 very much raised angles or wings decurrent from the leaves, sometimes 2 or 3 lines broad. Leaves coriaceous, sometimes oblong or broadly lanceolate, entire or toothed, and above 1 in. long, sometimes very small or linear or reduced to minute scales. Peduncles in the upper axils solitary or 2 together, 1-flowered or loosely 2- or 3-flowered, with minute bracteoles close under the flower. Calyx-tube nearly globular, oblique, the lobes very small, almost concealed in the indumentum. Corolla 6 to 9 lines long, clothed with appressed or rather loose hairs. Ovary 1-celled; ovule vertical, horseshoe-shaped or almost annular. Fruit about 2 lines diameter, crustaceous, separable from the herbaceous calyx-tube. Seed horseshoe-shaped, curved over the spurious semidissepiment.—*De Vr. Gooden.* 112; *Hook. Ic. Pl. t. 1027*; *D. cauloptera*, *DC. Prod.* vii. 504; *De Vr. in Pl. Preiss.* i. 402, and *Gooden.* 111. t. 18; *D. trialata*, *D. epiphyllloidea*, and *D. Lindleyi*, *De Vr. in Pl. Preiss.* i. 401, 402.

W. Australia. King George's Sound to Swan River, *Drummond, 1st Coll., 2nd Coll. n. 426, Suppl. n. 10*; *Preiss, n. 1444, 1476, 1494, 1514, Oldfield*, and others; Stirling Range and Salt River, *Maxwell*; Murchison river, *Oldfield*.

7. **D. coronata**, *Lindl. Swan Riv. App.* 27. A perennial, glabrous except the flowers, with erect, simple or branched stems of 1 to $1\frac{1}{2}$ ft., with 2 or 3 raised angles or wings decurrent from the leaves. Lower leaves petiolate, oblong-cuneate or almost obovate, coarsely toothed, 1 to 2 in. long, the upper ones small, narrow, and sessile. Peduncles in the upper axils bearing usually few, shortly-pedicellate flowers, forming altogether a loose, terminal, leafy panicle. Bracts minute. Flowers blue, covered with appressed, dark-coloured hairs. Calyx-tube oblique and very gibbous, the lobes broad and

obtuse, very small, but prominent. Corolla about $\frac{1}{2}$ in. long. Ovary 1-celled, with 1 erect, horseshoe-shaped ovule. Fruit not seen.

W. Australia. Swan River, *Collie, Drummond, 1st Coll., 2nd Coll. n. 396.*

8. **D. carinata**, *Benth.* A small perennial, the stock tufted and woolly, the rest of the plant glabrous except the flowers. Stems erect, branching, terete, rigid, almost leafless, the specimens seen not exceeding 6 in. Leaves few, small, linear-terete or reduced to minute scales. Flowers solitary and terminal, about 4 lines long, silky-white with appressed and stellate hairs. Calyx-tube short, with a broad, semicircular, keel-like appendage or gibbosity on one side, the lobes ovate-lanceolate as long as the tube. Ovary 1-celled, with 1 erect, horseshoe-shaped ovule.

W. Australia, *Drummond, 2nd Coll. n. 397 (Herb. F. Muell.).*

9. **D. sacculata**, *F. Muell. Herb.* Herbaceous, glabrous except the flowers, the stems rush-like, terete or scarcely angular, simple or branched, sometimes erect and 1 to $1\frac{1}{2}$ ft. high, sometimes longer and flexuose (or almost scandent?). Leaves linear, very narrow and thick, obtuse, entire, the lower ones sometimes 1 to 2 in. long, and occasionally rather broad and flat, the upper ones distant, very small, and almost terete. Peduncles in the upper axils mostly 2 or 3 together, 1-flowered or rarely 2-flowered. Calyx-tube very short, oblique and gibbous, the lobes minute, concealed under the indumentum. Corolla about $\frac{1}{2}$ in. long, of a deep purple-blue, clothed as well as the calyx with black, appressed hairs. Ovary 1-celled, with 1 erect, horseshoe-shaped or almost annular ovule. Fruit not seen.

W. Australia. Blackwood and Upper Kalgan rivers, *Oldfield*; Stirling Range, *Maxwell, F. Mueller.*

10. **D. incana**, *R. Br. Prod. 588.* A diffuse or divaricately-branched shrub, hoary in every part with a close intricate or stellate tomentum. Leaves obovate or oblong-cuneate, the lower ones shortly petiolate and above 1 in. long, the upper ones smaller and sessile but narrowed at the base, all quite entire or very rarely slightly angular. Flowers solitary or 2 together terminating short leafy branches and forming an irregularly corymbose leafy panicle. Bracts and bracteoles small, linear, very obtuse. Calyx-tube very short, the minute lobes concealed under the indumentum. Corolla about 4 lines long, densely tomentose outside. Ovary 1-celled, with 1 erect horseshoe-shaped ovule. Fruit not seen.—*DC. Prod. vii. 503; De Vr. Gooden. 95.*

W. Australia. Sharks' Bay, *Gaudichaud, A. Cunningham*; Dirk Hartog's Island, *A. Cunningham*; Murchison river, *Oldfield.*

Var. fuscescens. Tomentum of the flower looser, of a more leaden colour.—Murchison river, *Oldfield.*

F. Mueller, Fragm. ii. 17, says that *D. incana* extends over the desert land of the interior to S. Australia and Victoria, varying much in inflorescence, etc., but he includes in the species *D. spicigera* and *D. marifolia*, both of which appear to me to differ too much in the ovule as well as in the inflorescence to be placed even in the same section as *D. incana*.

SECT. IV. EUDAMPIERA. Peduncles axillary or terminal, solitary or clus-

tered, 1-flowered or irregularly cymose. Ovary 1-celled with 1 linear or oblong ovule erect from the base.

11. **D. hederacea**, *R. Br. Prod.* 588. Herbaceous, with weak diffuse or trailing stems, the whole plant clothed with stellate plumose rather loose and sometimes rigid hairs. Leaves petiolate, broadly cordate ovate or ovate-lanceolate, the lower ones 1 to $1\frac{1}{2}$ in. long, angular or almost lobed, the upper ones small and entire, all rather thin, loosely woolly underneath, becoming nearly glabrous above when old. Peduncles in the upper axils rather slender, bearing each an irregular cyme of blue flowers. Bracts small, linear. Calyx-lobes lanceolate, nearly as long as the tube. Corolla 5 to 6 lines long, clothed with dense dark plumose hairs. Ovary 1-celled, with 1 oval-oblong flattened ovule. Fruit not seen.—DC. *Prod.* vii. 503; De Vr. Gooden. 79.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *A. Cunningham*, *Drummond*, n. 143 and 3rd Coll. n. 188; Franklin river, *Maxwell*; Upper Kalbarri river, *F. Mueller*.

12. **D. ferruginea**, *R. Br. Prod.* 588. An erect undershrub of 1 to 2 ft., clothed with a loose stellate tomentum intermixed with long hairs shortly plumose at the base; branches terete, sulcate. Leaves very shortly petiolate, ovate orbicular or rhomboidal, rather rigid, often 3-nerved, entire or coarsely toothed, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long, becoming glabrous when old, the upper ones sessile and smaller. Peduncles in the upper axils several-flowered, with ovate leaf-like bracts or the peduncles growing out into leafy branches. Flowers blue, almost sessile in the axils of the leafy bracts, densely clothed with loosely stellate hairs and long ones plumose at the base. Calyx-lobes obsolete. Corolla about $\frac{1}{2}$ in. long. Ovary 1-celled, with 1 erect narrow ovule.—DC. *Prod.* vii. 503; De Vr. Gooden. 93. t. 14.

Queensland. Shoalwater Bay, *R. Brown*; dry ridges, Burnett river, *F. Mueller*; Magnetic Island, *Burdekin Expedition*, and Port Denison, *Fitzalan*; Rockingham Bay, *Dallachy*.

13. **D. Brownii**, *F. Muell. Fragm.* vi. 29. A tall shrub, more or less scabrous-pubescent hirsute or almost woolly with stellate hairs. Leaves petiolate, orbicular oval or rarely ovate-lanceolate, thick and often undulate or coarsely sinuate-toothed in the broad-leaved forms, usually quite entire in the oval-leaved varieties, usually from $\frac{1}{2}$ to 1 in. long, but twice as much when very luxuriant. Peduncles solitary or clustered in the upper axils, sometimes much shorter than the leaves, sometimes especially in the oval-leaved varieties much elongated, and usually bearing an irregular cyme of 3 or more sessile flowers. Bracts minute. Flowers purple or blue, densely clothed with dark-coloured plumose hairs, sometimes very long and spreading, especially in the broad-leaved forms. Calyx-lobes minute and concealed under the indumentum or quite obsolete. Corolla usually about $\frac{1}{2}$ in. long. Ovary 1-celled, with 1 erect narrow ovule. Fruit oblong, nearly 2 lines long, transversely rugose. Seed nearly terete.—*D. undulata*, *D. rotundifolia*, *D. ovalifolia*, and *D. purpurea*, *R. Br. Prod.* 587, 588; DC. *Prod.* vii. 503; De Vr. Gooden. 84 to 86, 93; *D. omissa*, De Vr. in Ned. Kruidk. Arch. ii. 10; *D. melanopogon*, De Vr. Gooden. 87; *D. nervosa*, De Vr. in Ned. Kruidk.

Arch. ii. 12. Gooden. 92; *D. linear.* De Vr. Gooden. 89, from the characters in Ned. Kruidk. Arch. ii. 11.

N. S. Wales. Part Jackson and the Blue Mountains, very abundant, *R. Brown* and many others; to the N.W. of Bathurst, *Fraser*, *A. Cunningham*; New England, *C. Stuart*.

Victoria. Rocky mountains on the Macalister river at an elevation of 2000 to 3000 ft., *F. Mueller*.

R. Brown had already indicated that the four species he proposed were very closely connected with each other, and *F. Mueller* appears to have been quite right in uniting them. The broad-leaved forms, *D. undulata* and *D. rotundifolia*, run so closely into each other, in the numerous specimens before me, as to be inseparable even as varieties. *D. ovalifolia* and *D. purpurea*, also inseparable from each other, have smaller, more entire, more oval leaves, more narrowed at the base and sometimes almost obovate-cuneate, and generally a looser inflorescence and shorter indumentum on the flowers, especially in the southern specimens, but many specimens pass into the broad-leaved form. Both appear to be very abundant in the Blue Mountains. Sieber's n. 227 belongs to the oval-leaved variety. Some of the northern specimens have the leaves almost ovate-lanceolate.

14. ***D. lanceolata***, *A. Cunn.*; *DC. Prod.* vii. 503. An erect or diffuse undershrub or shrub nearly allied to *D. rosmarinifolia*, but approaching in some respects to *D. Brownii*. Branches usually sulcate, scabrous or stellate-hairy. Leaves elliptical oblong-linear or lanceolate, entire or with a few teeth, mostly larger and less revolute than in *D. rosmarinifolia*, much narrower than in *D. Brownii*, glabrous but scabrous above when full grown, slightly hoary-tomentose underneath. Peduncles in the upper axils solitary or clustered, mostly longer than the floral leaves, 1- or few-flowered. Bracts very small. Flowers clothed with a loose stellate tomentum intermixed with longer plumose hairs. Calyx-teeth very small, almost concealed in the indumentum. Corolla about $\frac{1}{2}$ in. long. Ovary 1-celled, with 1 erect narrow ovule.—*D. Cunninghamii*, De Vr. Gooden. 91; *D. adpressa*, De Vr. Gooden. 100. t. 16. f. 1, not of *A. Cunn.*

N. S. Wales. Peel's Range and Wellington Valley near Croker's Range, *A. Cunningham*; between the Upper Bogan and Lachlan rivers, *L. Morton*.

Victoria. Murray river, *Dallachy*; near Lake Koorong, *Herb. F. Mueller*.

In the above-quoted plate, De Vr. Gooden. t. 16. f. 2, appears to represent a very different plant; perhaps *D. glabrescens*.

15. ***D. altissima***, *F. Muell. Herb.* A branching shrub of 4 to 6 ft. (*Oldfield*), more or less hoary or white with a loose stellate tomentum which disappears from the older leaves. Leaves mostly oblong-cuneate, $\frac{1}{2}$ to 1 in. long, entire or slightly toothed, flat and rather soft, the lower ones somewhat larger obovate and petiolate, the upper ones small narrow and entire. Peduncles in the upper axils branching out into loose dichotomous cymes with opposite leafy bracts at the forks or degenerating into more normal leafy branches. Bracteoles linear. Flowers blue, rather large, covered with a densely intricate white stellate tomentum. Calyx-lobes small, almost concealed in the tomentum. Corolla 7 to 8 lines long. Ovary 1-celled, with 1 narrow ovule erect from the base.

W. Australia. White Peak, Murchison river, *Oldfield*. Like *D. marifolia*, this has at first sight some resemblance to *D. incana*, but with a very different ovary.

Var. ? *dura*. Stature lower. Leaves more rigid, mostly cuneate and often almost lobed

at the end, the indumentum looser, mixed on the flowers with a few longer hairs plumose at the base only.—*Drummond, 5th Coll. n. 71.*

16. **D. marifolia**, *Benth.* A diffuse or erect much-branched shrub or undershrub, under 1 ft. high in all the specimens seen, hoary all over with a close stellate tomentum mixed with longer rather rigid more or less plumose hairs. Leaves sessile, ovate to oblong-elliptical, obtuse, entire, with slightly revolute margins, usually about $\frac{1}{2}$ in. long and hoary on both sides, sometimes on luxuriant shoots nearly 1 in. long and glabrous above. Peduncles in the upper axils nearly as long as or longer than the leaves, 1- to 3-flowered, with linear leafy bracts or bracteoles. Flowers blue, stellate-tomentose outside. Calyx-lobes ovate or ovate-lanceolate, almost concealed in the indumentum, although nearly as long as the tube. Corolla 4 to 5 lines long. Ovary 1-celled, with 1 ovoid-oblong straight ovule erect from the base.

N. S. Wales. Confluence of the Murray and Murrumbidgee, *F. Mueller*.

Victoria. Wimmera, *Dallachy*.

These specimens are referred by *F. Mueller*, *Fragm. ii. 17*, to *D. incana*, of which they have the inflorescence and nearly the indumentum, but neither the foliage nor the ovule.

17. **D. rosmarinifolia**, *Schlecht. Linnea*, xx. 603. An erect or rarely diffuse or prostrate undershrub or much-branched shrub of $\frac{1}{2}$ to $1\frac{1}{2}$ ft., the branches, underside of the leaves, and young shoots more or less hoary or white with a close stellate or intricate tomentum. Leaves sessile or nearly so, oblong or almost linear, very obtuse, the margins much revolute, thick, smooth and shining on the upper surface, mostly about $\frac{1}{2}$ in. long and quite entire; the lower ones sometimes 1 in. long and occasionally broader, slightly angular and narrowed into a short petiole. Peduncles in the upper axils solitary or clustered, exceedingly short or rarely as long as the leaves. Bracts small, linear. Flowers blue (or white or red according to Behr), densely stellate-tomentose, with a few longer hairs. Calyx-lobes very small, almost concealed in the indumentum. Corolla about $\frac{1}{2}$ in. long. Ovary 1-celled, with 1 narrow erect ovule.

Victoria. Murray desert and Wimmera, *Dallachy*; near Lake Koorong, *Herb. F. Mueller*.

S. Australia. From the Murray to St. Vincent's Gulf, *F. Mueller* and others; Lake Gillies, *Burkitt*; near Spencer's Gulf, *F. Mueller*.

Var. *dysantha*. Indumentum of the flowers much longer and looser, as in *D. lanceolata*, but the upper leaves much revolute and white underneath, as in *D. rosmarinifolia*.—*Grampians, Wilhelmi*; St. Vincent's Gulf, *F. Mueller*.

18. **D. lavandulacea**, *Lindl. Swan Riv. App. 27*. A much-branched erect or diffuse rigid perennial, not exceeding 1 ft. in any specimens seen, the young parts clothed with a white cotton which disappears at least from the upper side of the leaves. Leaves oblong lanceolate or almost linear, the larger ones $\frac{3}{4}$ in., but mostly $\frac{1}{2}$ in. long or less, sessile or the lower ones shortly petiolate, coriaceous, with recurved or revolute margins, entire or obscurely toothed. Peduncles in the upper axils usually clustered, as long as or longer than the leaves, mostly 1-flowered. Bracteoles linear. Flowers blue, covered with short stellate or branched cottony hairs. Calyx-lobes short, almost concealed in the indumentum. Corolla under $\frac{1}{2}$ in. long.

Ovary 1-celled, with 1 short oblong erect ovule.—*D. repens*, DC. Prod. vii. 503.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 13, also n. 398. Murchison river, sandy plains Kalbar river, Stirling Range, *Oldfield*: Oldfield river, *Maxwell* (with shorter peduncles). This species is sometimes very near *D. cassarinifolia*, but the peduncles are generally longer, the bracteoles much more developed, the ovule shorter, etc.

D. Preissii, De Vr. in Pl. Preiss. i. 403, from York district, *Preiss*, n. 1481, which I have not seen, is probably a more tomentose-woolly variety of the same species.

19. **D. juncea**, *Beath*. Herbaceous, glabrous except the flowers or the young shoots white-tomentose. Stems terete or slightly angular, rush-like, erect and about 1 ft. high or longer and flexuose (or scandent?). Leaves none or very small and linear-terete or reduced to minute scales. Flowers rather large, blue, solitary or clustered at the upper nodes, clothed with a short dense intricate plumose tomentum of a leaden colour, the short thick pedicels continuous with the calyx and almost as thick, with a minute scale-like bract about halfway up. Calyx-lobes very short and broad, scarcely distinguishable in the dense indumentum. Corolla nearly $\frac{3}{4}$ in. long. Ovary 1-celled, with 1 linear ovule erect from the base.

W. Australia. Swan River, *Drummond*, 1st Coll., also 5th Coll. n. 168. Plantagenet and Stirling Ranges, Dillon Bay, Cape Knobb, *Maxwell*. *Drummond*'s specimens were included by De Vriese in *D. parvifolia*.

20. **D. oligophylla**, *Beath*. A perennial or undershrub, hoary when young with a close stellate tomentum, becoming glabrous with age. Stems numerous, erect, slender but rigid, simple or branched, terete and sulcate, under 1 ft. high. Leaves few and distant, oval or oblong, flat, coriaceous, entire, under $\frac{1}{2}$ in. long and sometimes none of them half that size. Peduncles mostly 1-flowered, solitary or 2 together in the upper axils, scarcely exceeding the leaves. Indumentum of the flowers stellate, lead-coloured, often mixed with longer slightly plumose hairs. Calyx-lobes obsolete. Corolla about $\frac{1}{2}$ in. long. Ovary 1-celled, with 1 oblong erect ovule.

W. Australia. *Drummond*, 4th Coll. n. 193; Gordon and Kalbar rivers, *Oldfield*.

21. **D. loranthifolia**, *P. Muell. Herb.* Very closely allied to the narrow-leaved forms of *D. fasciculata*, with the same rigid angular stems, sessile rigid oblanceolate flat leaves and clustered peduncles, and similar flowers except that their indumentum consists of spreading plumose hairs, snow-white or somewhat brown, and that the calyx-teeth are quite obsolete.

W. Australia. Among rocks, Phillips river (with white indumentum on the flowers), and above Middle Mount Barren (with a brownish indumentum), *Maxwell*.

22. **D. stricta**, *R. Br. Prod.* 589. A rigid perennial, nearly glabrous except the inflorescence, the young shoots rarely stellate-pubescent. Stems broadly angular or compressed, erect or rarely decumbent. Leaves sessile, the lower ones sometimes broadly obovate or cuneate, but mostly oblong or linear, from $\frac{1}{2}$ to $1\frac{1}{2}$ in. long, flat, rigid, entire or coarsely angular-toothed. Flowers blue, solitary or irregularly clustered in the upper axils, densely covered with appressed usually rust-coloured hairs apparently simple but really branched or stellate at the base, with divaricate and parallel

branches. Pedicels usually very short, the bracts and bracteoles rigid, linear or lanceolate. Calyx-lobes ovate or ovate-lanceolate, generally prominent, although covered with the hairs of the tube. Corolla rarely under $\frac{1}{2}$ in. long and sometimes 7 or 8 lines, the persistent base very short. Ovary 1-celled, with 1 straight ovule erect from the base.—DC. Prod. vii. 504; Hook. f. Fl. Tasin. i. 230; De Vr. Gooden. 109 (but in all these only the Eastern plant); *D. fasciculata*, DC. Prod. vii. 504, De Vr. Gooden. 105 (as to the Port Jackson plant); *Goodenia stricta*, Sm. in Trans. Linn. Soc. ii. 349.

Queensland. Glasshouse Mountains, *F. Mueller*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 221, 226, and others; Hastings river, *Beckler*; Illawarra, *A. Cunningham*; Berrima, *M^cArthur*.

Victoria. Mount Macedon, Banip Creek, Plenty Range, *F. Mueller*.

Tasmania. Flinders Island and Cape Barren Island, *Gunn*; South Esk river, *Strelecky*; towards George Bay, *Bissill*.

Var. *laxa*. Decumbent? Leaves broadly cuneate, coarsely toothed. Peduncles elongated.—To this belong the Victoria specimens.

Var. ? *oblongata*. Leaves usually oblong, entire or nearly so, 1 to 2 in. long. Indumentum of the flowers looser and darker.—*D. oblongata*, R. Br. Prod. 588; DC. Prod. vii. 504; De Vr. Gooden. 106, partly. To this form belong the Queensland specimens and those from Hastings river. I follow J. D. Hooker and F. Mueller in uniting it with *D. stricta*, but it has a somewhat different aspect. Possibly, however, the western *D. leptoclada*, *D. fasciculata*, and even *D. loranthifolia*, may prove to be varieties only of *D. stricta*, which it will be then very difficult to define.

23. *D. leptoclada*, *Benth.* A perennial, glabrous except the flowers, with decumbent, ascending or erect stems of 1 to $1\frac{1}{2}$ ft., often broadly triangular in the lower part, the branches slender, elongated, less prominently angled. Leaves sessile, lanceolate or oblong, linear, obtuse, entire or with 1 or 2 prominent teeth on each side, thick and flat, the larger ones 1 to 2 in. long but mostly smaller, the floral ones narrow. Peduncles solitary or 2 or 3 together in the upper axils, rarely exceeding the leaves, rather slender, 1- to 3-flowered. Bracts minute. Flowers blue, clothed with lead-coloured or blackish, appressed, parallel-branched hairs. Calyx-lobes $\frac{1}{4}$ to $\frac{1}{2}$ line long, but usually concealed under the indumentum. Corolla 5 to 7 lines long, the wings of the lobes broad. Ovary 1-celled, with 1 oblong-linear ovule, erect from the base.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Oldfield*, *Maxwell*, *F. Mueller*; perhaps also Champion Bay, *Oldfield*. R. Brown referred his specimens doubtfully to *D. stricta*, of which this species may possibly be a Western form, but the habit is much weaker, the deep blue wings of the corolla-lobes broader, the indumentum of the flowers of a different colour, the bracts very minute, etc. Drummond's specimens, n. 161, may be the same plant in a more advanced state, with the peduncles longer than the leaves, but they are very imperfect.

Var. *parviflora*. Still more slender, with smaller flowers.—Cape Arid, *Maxwell* (*Herb. F. Muell.*).

24. *D. fasciculata*, *R. Br. Prod.* 588. A rigid perennial or undershrub, nearly glabrous except the flower, or with more or less of stellate tomentum or clustered hairs, especially on the young shoots and about the inflorescence. Stems angular or compressed, erect or decumbent, not much branched, 2 to 3 ft. high (*Oldfield*). Leaves sessile, obovate, cuneate-oblong or rarely oblanceolate, entire or coarsely angular-toothed, thick, and coria-

ceous, mostly 1 to 2 in. long, the upper ones often irregularly opposite or whorled. Peduncles usually clustered in the upper axils, 1- or rarely 2-flowered, shorter or scarcely longer than the leaves, mostly stellate-tomentose. Flowers blue, clothed with appressed, parallel-branched hairs. Calyx-tube much smaller than in *D. stricta*, sometimes scarcely conspicuous, and usually concealed under the indumentum. Corolla $\frac{1}{2}$ in. long or rather more. Ovary 1-celled, with 1 straight ovule erect from the base. DC. Prod. vii. 504; De Vr. Gooden. 105 (both as to the Western plant only); *D. subverticillata*, De Vr. in Pl. Preiss. i. 403; Gooden. 108.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Baxter*, *Ogilby*, *Maxwell*, *Drummond*, *n. 503*, *Preiss*, *n. 1510*, and thence eastward to Cape Arid, *Maxwell*.

Var. angustifolia. Leaves all lanceolate or the larger ones oblong-cuneate.—Cape Arid, *Maxwell*.

25. **D. subspicata**, *Benth.* Glabrous except the flowers. Branches erect, rigid, 3-angled. Leaves sessile, oblong-lanceolate, obtuse, entire, thick, flat, coriaceous, 1 to 2 in. long, the floral ones much smaller. Flowers blue, nearly sessile, solitary or 2 or 3 together, in the axils of the floral leaves or leafy bracts, on pedicels shorter than the leaves, forming long, virgate, flowering branches or leafy, interrupted spikes. Bracts or bracteoles minute. Calyx-tube narrow, 5-ribbed, glabrous, the lobes minute. Corolla about $\frac{1}{2}$ in. long, clothed with appressed, parallel-branched hairs. Ovary 1-celled, with 1 erect, linear ovule.

W. Australia. Near the base of Mount Bland, *Maxwell*. There are but very few specimens, remarkable for their peculiar inflorescence and glabrous calyx, but possibly further materials may show their connection with some one of the foregoing species.

26. **D. triloba**, *Lindl. in Swan Riv. App.* 27. A perennial or undershrub, with a thick, woody stock, and numerous ascending or erect, slightly angular stems, not exceeding 1 ft. in any of our specimens, the whole plant clothed with a stellate tomentum, either loose and floccose or dense and ferruginous, often disappearing from the old leaves and branches. Leaves from broadly obovate to oblong-cuneate, angular-toothed or entire, coriaceous, the lower ones petiolate and often 2 in. long, the upper ones smaller, contracted at the base, but sessile or nearly so, the floral ones sometimes irregularly verticillate. Peduncles clustered in the upper axils, and usually longer than the leaves, few-flowered. Bracts very small and narrow. Flowers rather small. Calyx densely stellate-tomentose, the lobes obsolete. Corolla about 4 lines long, clothed with appressed, parallel-branched hairs. Ovary 1-celled, with 1 erect, linear ovule. De Vr. Gooden. 80; *D. repanda*, De Vr. in Pl. Preiss. i. 400; Gooden. 80; *D. Drummondii* and *D. hæmatotricha*, De Vr. Gooden. 82, 94.

W. Australia. *Drummond*, 2nd Coll. *n. 105*, 3rd Coll. *S. Appl. n. 57*; Swan River, *Preiss*, *n. 1518*.

27. **D. linearis**, *R. Br. Prod.* 588. A rigid herb or undershrub, glabrous except the inflorescence or sprinkled with irregularly stellate hairs, the stems erect or diffuse, scarcely angular, sometimes all under 1 ft., sometimes exceeding $1\frac{1}{2}$ ft. Leaves sessile or the lower ones contracted into a short

petiole, linear-oblong or spatulate, rarely obovate-oblong, entire or with a few teeth, coriaceous and rigid, $\frac{3}{4}$ to $1\frac{1}{2}$ in. long. Peduncles in the upper axils usually longer than the floral leaves and several-flowered, but sometimes short. Bracteoles linear. Flowers blue, covered with rather long hairs, usually loosely spreading but sometimes almost appressed and irregularly branched or stellate at the base. Calyx-lobes quite obsolete. Corolla about $\frac{1}{2}$ in. long. Ovary 1-celled, with 1 ovule erect from the base.—DC. Prod. vii. 504; De Vr. Gooden. 104; *D. azurea*, De Vr. in Pl. Preiss. i. 400; Gooden. 103; *D. eriophora*, De Vr. in Pl. Preiss. i. 400; *D. erecta*, De Vr. in Pl. Preiss. i. 401, according to De Vr. Gooden. 104.

W. Australia. King George's Sound, *R. Brown*, and thence to Swan and Vasse Rivers, *Drummond*, 1st Coll. n. 17, *Preiss*, n. 1475, 1500, *Hugel*, *Oldfield*, and others; Mount Manypeak, *Maxwell*.

The broad-leaved forms, to which this specific name is scarcely applicable, may still be distinguished from *D. cuneata* by their shape as well as by the larger, more loosely villous flowers, less rigid bracts, etc.

28. ***D. cuneata***, *R. Br. Prod.* 588. A perennial, with erect and virgate or diffuse and more branching stems, sprinkled with short, stellate hairs, and a few longer ones soft and simple or shortly plumose at the base, the inflorescence more covered with long, soft hairs; branches angular. Leaves sessile, obovate or oblong-cuneate, entire or angular-toothed, coriaceous, nearly glabrous, mostly about $\frac{1}{2}$ in. long, but on luxuriant shoots twice that size. Peduncles in the upper axils longer than the leaves, bearing each an irregular cyme of 3 or more flowers, with narrow, rigid, leafy bracts of 3 to 4 lines, the lower peduncles sometimes replaced by slender, leafy branches, with flowers solitary in the axils. Calyx-lobes quite obsolete. Corolla 4 to 5 lines long, covered with long hairs, intermixed with smaller, stellate ones. Ovary 1-celled, with 1 erect, oblong ovule. Fruit oblong, 1 to $1\frac{1}{2}$ lines long.—DC. Prod. vii. 504; De Vr. Gooden. 102; *D. lanuginosa*, De Vr. Gooden. 81.

W. Australia. King George's Sound, *R. Brown* and many others, *Drummond*, n. 140 (or 40?) and 157 (or 127?). There are also many specimens without flowers of *Drummond's* n. 27, which may be this species.

29. ***D. sericantha***, *F. Muell. Herb.* A small perennial, glabrous except the flowers. Stems slender but rigid, erect or ascending, branching, under 1 ft. high. Leaves sessile, but narrowed at the base, oblong-cuneate, entire or angular-toothed, mostly small but occasionally nearly 1 in. long, obtuse, thick, and flat. Flowers small, deep blue, 2 or 3 together on rather long peduncles in the upper axils. Bracts linear, rigid. Calyx-lobes obsolete. Corolla about 4 lines long, silky-white outside, with long, appressed hairs. Ovary 1-celled, with 1 erect, linear ovule.

W. Australia. Lucky Bay, *Maxwell*. This may possibly prove to be an anomalous form of *D. parvifolia*, but it is much less rigid, and the inflorescence is different.

30. ***D. parvifolia***, *R. Br. Prod.* 589. Herbaceous, rigid, and glabrous when full grown except the flower, the stock and axils sometimes woolly, and the young shoots hoary-tomentose. Leaves thick, a few of the lower ones sometimes obovate or cuneate, slightly toothed at the end, and 1

or even 2 in. long, the others quite entire, small and narrow or a few of the larger ones 1 in. long. Flowers sessile, solitary or few together, in clusters towards the ends of the branches, forming a leafy panicle. Bracts dry, rigid, acute, more or less imbricate, usually exceeding the calyx. Calyx-lobes obsolete. Corolla under $\frac{1}{2}$ in. long, covered with simple or scarcely plumose, silky hairs. Ovary 1-celled, with 1 erect, narrow-oblong ovule.—DC. Prod. vii. 504; De Vr. Gooden. 110 (only as to Brown's plant).

W. Australia. Lucky Bay, *R. Brown*, and thence to Orleans Bay and Cape Paisky, *Maxwell*.

31. **D. glabrescens**, *Benth.* Probably an undershrub, closely resembling the Eastern *D. adpressa* in aspect and indumentum, but apparently more branched. Leaves sessile, the larger ones lanceolate, entire or minutely and remotely toothed, sometimes 3-nerved, $1\frac{1}{2}$ to 2 in. long, those of the branchlets oblong, entire, about $\frac{1}{2}$ in. long, all obtuse, flat, and quite smooth, loosely and almost silky tomentose when young, glabrous when full grown. Peduncles in the upper axils shorter than the leaves, 1- to 3-flowered. Bracts small, linear. Flowers covered with a white, close, stellate tomentum, mixed with a few, long, soft, almost simple hairs. Calyx-lobes quite obsolete. Ovary 1-celled, with 1 oblong, erect ovule.

W. Australia, *Drummond*, *Ath Coll.* n. 194; South Hutt and Marchison rivers, *Oldfield*. The plant figured by De Vriese, Gooden. t. 16. f. 2, as a second specimen may, perhaps, belong to this species, of some forms of which it is a fair representation.

32. **D. adpressa**, *A. Cunn.*; DC. Prod. vii. 503. An undershrub, with a thick stock, and several erect, simple or slightly-branched stems of 1 to 2 ft., clothed when young as well as the leaves with a close, white, almost floccose tomentum, which disappears from the adult leaves. Leaves very shortly petiolate, ovate or lanceolate, acute or rarely obtuse, entire or obscurely toothed, coriaceous, rather thick, smooth, and quite flat, $\frac{1}{2}$ to 1 in. long. Peduncles axillary, rarely exceeding the leaves, 2- or 3-flowered. Bracts small, linear. Flowers rather small, clothed with a dense, stellate or woolly tomentum, mixed with long, almost simple hairs. Calyx-lobes oblong-linear, sometimes rather long, but apparently deciduous, and much concealed by the indumentum. Ovary 1-celled, with 1 straight ovule erect from the base.—*D. lanceolata*, De Vr. Gooden. 101. t. 17.

Queensland, *Mitchell*; Cape river, *Bowman*; Thermometer Creek, *Leichhardt*.

N. S. Wales. Croker's Range, *A. Cunningham*.

By some mistake, De Vriese has interchanged the names of *D. lanceolata* and *D. adpressa*, although he had Cunningham's named specimens before him.

33. **D. diversifolia**, *De Vr. in Pl. Preiss.* i. 403; Gooden. 117. A prostrate perennial or undershrub, extending sometimes to a considerable breadth, with numerous short, dense, leafy branches, quite glabrous in every part. Radical leaves oblong-spathulate or oblanceolate, 1 to $1\frac{1}{2}$ in. long, all the others lanceolate, oblanceolate or linear, rarely above $\frac{1}{2}$ in. long, coriaceous, acute, entire or minutely toothed, often concave like those of *Epacrideæ*. Flowers blue, differing from all other species in being quite glabrous outside, on short, axillary peduncles or branchlets, with 1 or 2 leaves and a pair of bracteoles close under the flower. Calyx-lobes ovate-triangular, shorter than

the persistent base of the corolla. Corolla about $\frac{1}{2}$ in. long. Ovary 1-celled, with 1 straight ovule erect from the base.—*Scavola prostrata*, De Vr. in Pl. Preiss. i. 406.

W. Australia, *Drummond*, n. 358, 3rd Coll. n. 160; Mount Barker, Gordon and Kalgun rivers, Stirling Range, *Oldfield*; Gardiner river, *Maxwell*.

SECT. 5. CEPHALANTHA.—Leaves radical. Scapes simple or branched. Flowers in dense, terminal heads. Ovary 1-celled, with 1 linear-oblong, straight ovule erect from the base.

34. **D. eriocephala**, *De Vr. Gooden.* 118. t. 21. A perennial, with a thick, tufted stock. Leaves radical, petiolate, obovate oval or oblong, obtuse, entire or sinuate-toothed, rather thick, often several inches long, glabrous above, clothed underneath in the typical form with a close, white tomentum. Scapes erect, woolly-tomentose, 1 to 2 ft. high, leafless, and simple below the flower-head or more or less corymbosely branched, with sessile, oblong or linear leaves or bracts subtending the branches. Flowers blue, in dense, villous heads rarely growing out into short spikes, at the ends of the stem or branches. Bracts lanceolate, ciliate, otherwise glabrous or silky-villous. Calyx-lobes small, and almost concealed in the indumentum. Corolla 6 to 8 lines long, clothed with long, silky, appressed or spreading hairs. Ovary 1-celled, with 1 erect ovule.

W. Australia, *Drummond*, 5th Coll. n. 69, 70; rocks, Mongerup, Stirling Range, *Maxwell*. The simple-scaped specimens have very much the aspect of *Brunonia*.

Var. ? *concolor*, F. Muell. Leaves thick, glabrous on both sides. Flowers much smaller; the corolla 4 to 5 lines long, with narrow lobes.—*Drummond*, 4th Coll. n. 162.

12. BRUNONIA, Sm.

Calyx-tube free but contracted over the ovary; lobes 5. Corolla nearly regular, inserted at the base of the calyx-tube, the tube cylindrical; lobes 5, valvate, spreading, the 2 upper ones separated rather lower down. Stamens 5, inserted at the base of the corolla-tube, the filaments cohering upwards, the anthers cohering in a ring round the style. Ovary free, but enclosed in the calyx-tube, 1-celled, with a single erect anatropous ovule. Style simple; stigma shortly 2-lobed, enclosed in a cup-shaped indusium. Fruit a small nut enclosed in the hardened calyx-tube. Seed erect, without albumen. Embryo straight, cotyledons ovate, radicle short, inferior.—Silky-hairy perennial. Leaves radical. Flowers in a dense head, intermixed with bracts, on a leafless scape.

The genus is limited to a single species endemic in Australia. R. Brown appears to me to have been quite right in including it in *Goodenoviæ*, of which it has the remarkable indusium. It has since been raised into an independent Order, on account of the free ovary, regular flowers, and exalbuminous seed, and has even been removed far away from *Goodenoviæ* to the neighbourhood of *Plantaginæ*. The ovary and fruit are, however, so completely enclosed in the constricted calyx-tube as to be really less free than in *Lobelia xalapensis*, the exceptionally regular flowers are but little more so than in *Diaspasis*, and in some species of *Scavola*, especially *S. spinescens*, I have found the albumen much reduced. The habit of *Brunonia* is also so little different from that of *Dampiera eriocephala*, that I have seen the latter placed in covers of *Brunonia* as a new species.

1. **B. australis**, Sm. in *Trans. Linn. Soc.* x. 367. t. 28. A tufted perennial, clothed in every part with long silky hairs closely appressed in some specimens, more frequently more or less spreading. Leaves radical, from obovate to linear-cuneate, quite entire, softly mucronate, contracted into a petiole, mostly 2 to 4 in. long. Scapes 6 in. to above 1 ft. high, bearing a dense globular or hemispherical flower-head of $\frac{1}{2}$ to $\frac{3}{4}$ in. diameter. Flowers numerous, sessile, intermixed with bracts of which a few of the outer ones are broad and leafy though not longer than the flowers, forming a kind of involucre, the inner ones small and narrow, ciliate with long hairs; there are also close around each flower 3 or 4 concave truncate but jagged and ciliate bracts of which at least the 2 innermost are scarious and transparent. Calyx-tube very short, the lobes $1\frac{1}{2}$ to 2 lines long, plumose-ciliate, almost always tipped with a glabrous pedicellate gland. Corolla blue, the tube linear, hirsute, shorter than the calyx-lobes, the lobes oblong, glabrous, about as long as the tube. Fruit small.—R. Br. Prod. 590; A. DC. Prod. xii. 616; Hook. f. Fl. Tasm. i. 229; Bot. Reg. t. 1833; Paxt. Mag. vii. 267, with a fig.; *B. sericea*, Sm. in *Trans. Linn. Soc.* x. 367. t. 29; R. Br. Prod. 590; A. DC. Prod. xii. 616; *B. simplex*, Lindl. in Mitch. Trop. Austr. 52.

Queensland. Shoalwater Bay, *R. Brown*; Keppel Islands, *M. Gillivray*; Rockhampton, *Thozet*; Darling Downs, *H. Law*; Mount Pluto, *Mitchell*.

N. S. Wales. Peel's Range and Lachlan river, *A. Cunningham*; between the Upper Bogan and Lachlan rivers, *L. Morton*.

Victoria. Port Phillip, *R. Brown*; dry pastures from Melbourne to the mouth of the Glenelg and towards Lake Hindmarsh, *F. Mueller*, *Adamson*, and others.

Tasmania. Port Dalrymple, *R. Brown*; common in dry pastures in several parts of the colony, but local, *J. D. Hooker*.

S. Australia. Bugle Range, Holdfast Bay, Black Forest, *F. Mueller*; St. Vincent's Gulf, *Blandowsky*.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 417; Murchison river and Champion Bay, *Oldfield*.

The two forms commonly distinguished as species pass into one another very gradually. Where the indumentum is more silky and shorter, the glabrous tips of the calyx-lobes are prominent, and these specimens have usually smaller flower-heads. Where the hairs are longer the tips are concealed amongst them, and perhaps sometimes, but very rarely, disappear altogether; the former state is most common in the northern districts, the latter in the southern ones, but intermediate ones are also very frequent.

ORDER LXV. CAMPANULACEÆ.

Calyx-tube adnate to the ovary, the limb of 3 to 10, usually 5, persistent lobes. Corolla regular or irregular, with 3 to 10, usually 5, lobes, valvate in the bud, the margins often induplicate. Stamens as many as the lobes of the corolla, alternate with them, inserted at the base of the corolla-tube, but free from or very rarely more or less adnate to it. Anthers opening longitudinally, free or united in a ring round the style. Ovary inferior or rarely semisuperior or free except the broad base, 2- or more-celled, with numerous ovules in each cell. Style simple, entire or divided at the top into as many stigmatic lobes or branches as there are cells to the ovary. Fruit usually a capsule, opening either in short valves at the top or in lateral pores or slits, rarely an indehiscent berry. Seeds numerous, small. Embryo straight, often very small, in a fleshy albumen.—Herbs or very rarely shrubs, with a

juice usually milky. Leaves alternate or very rarely opposite, usually undivided and toothed, rarely deeply pinnatifid, without stipules. Flowers hermaphrodite or very rarely unisexual, either axillary solitary or clustered or in terminal spikes racemes or leafy panicles. Corolla frequently blue or white, more rarely purple or red, very rarely yellow.

A considerable Order, most abundant in the temperate regions of the northern hemisphere and in S. Africa, but extending also over the tropics both in the New and the Old World. The limits of the genera are as yet very unsatisfactorily determined. Of the four Australian ones as at present constituted, two extend over nearly the whole range of the Order, a third, *Pratia*, is limited to the extratropical regions of the southern hemisphere, unless it be deemed to include the tropical Asiatic *Paddingtonia*, the fourth, *Isotoma*, is either strictly Australian or may be extended to include a very few South African as well as European species.

Corolla usually irregular. Anthers united round the style. Ovary

2-celled. (**Lobeliææ.**)

Corolla-tube slit open to the base, the limb very irregular, 2-lipped.

Capsule opening between the calyx-lobes in 2 loculicidal valves. 1. LOBELIA.

Fruit, often succulent, either indehiscent or bursting irregularly below the calyx-lobes 2. PRATIA.

Corolla-tube entire or very shortly slit, the limb spreading, nearly regular or oblique 3. ISOTOMA.

Corolla regular, campanulate. Anthers free. Ovary 3- to 5-celled. 4. WAHLENBURGIA.

1. LOBELIA, Linn.

(*Rapuntium* and *Grammatotheca*, Presl; *Holostigma*, Don.)

(Calyx-tube hemispherical, turbinate ovoid oblong or rarely linear, limb of 5 lobes, open or reduplicate-valvate in the bud. Corolla slit open on the upper side to the base, 5-lobed, the 2 upper lobes usually shorter, more deeply separated and erect or curved upwards, forming a more or less distinct upper lip, the 3 lower spreading in a lower 3-lobed lip. Stamens inserted at the base of the corolla, sometimes very shortly adnate to it, the filaments often united above the middle; anthers united in an oblique or slightly incurved ring round the style. Ovary 2-celled. Stigma broadly 2-lobed and often surrounded by a ring of retractile hairs. Capsule opening loculicidally within the calyx-lobes in 2 valves, rarely splitting also longitudinally below the calyx-lobes when old.—Herbs, often acrid with a milky juice, the Australian ones either annual or creeping and rooting at the base. Pedicels 1-flowered, either axillary or terminal or in terminal racemes, sometimes bearing 2 small bracteoles, which are never constant in the same species. Flowers in a few species diocious by the abortion or sterility of the anthers in the females, and the imperfection of the undivided stigma and abortion of the ovules in the males.

The genus is numerous in species and widely spread over the greater part of the globe, but chiefly abundant in North America, South Africa, and Australa. There are also several species within the tropics both in the Old and in the New World, but none in Northern Asia; and in Europe the few species known are strictly western or Mediterranean. Of the 18 Australian species two are also in S. Africa, one of them, a maritime one, extending to New Zealand and extratropical South America, the remaining 16 are all endemic.

SECT. I. **Holopogon**.—All the anthers bearded (tipped with a tuft of short rigid



hairs or bristles). Flowers terminal or in terminal racemes (in *L. Bergiana* the lower ones axillary).

Annuals either erect or the lateral stems shortly decumbent at the base.

Flowers in a one-sided terminal raceme. Capsule gibbous.

Lower leaves mostly pinnatifid. Middle lower lobe of the corolla broad. Seeds 3-winged 1. *L. heterophylla*.

Leaves linear, entire or rarely toothed. Middle lower lobe of the corolla narrow. Seeds not winged 2. *L. gibbosa*.

Lower leaves ovate, cut. Racemes very loose. Seeds small, not winged.

Middle lower lobe of the corolla narrow 3. *L. dentata*.

Middle lower lobe of the corolla broad 4. *L. gracilis*.

Flowers terminating the branches or long branch-like peduncles.

Capsule twice as long as broad, rather oblique. Leaves narrow, the lower ones usually pinnatifid.

Seeds tubercular-rugose on the back, smooth but not shining in front with a prominent rib 5. *L. rhytidosperra*.

Seeds compressed, very smooth and shining 6. *L. tenuior*.

Capsule scarcely longer than broad, very gibbous. Seeds very small.

Lower leaves ovate or obovate, cut 7. *L. rhombifolia*.

Leaves all small linear and entire or nearly so 8. *L. parvifolia*.

Stem creeping or procumbent at the base; branches ascending.

Leaves all petiolate, cordate. Flowers in a loose terminal leafless raceme. Capsule globular 9. *L. trigonocaulis*.

Leaves scarcely petiolate, obovate lanceolate or linear. Flowers axillary or in a terminal raceme leafy at the base. Capsule linear 10. *L. Bergiana*.

(In 11. *L. anceps* and a few others of the following section there are short rigid hairs at the back of the upper anthers near the top, but not forming a terminal tuft.)

SECT. II. **Hemipogon.**—Two lower anthers tipped with tufts of short bristles or with single bristles or points, three upper ones without any. Flowers solitary on axillary pedicels, the uppermost rarely forming a leafy raceme.

Flowers hermaphrodite (anthers, stigma, and ovules, all perfect).

Lower leaves cuneate or obovate, rather thick, entire or obscurely toothed. Pedicels rarely much longer than the leaves.

Stems ascending, upper leaves narrow. Pedicels short. Capsule oblong or linear 11. *L. anceps*.

Stems short, creeping. Pedicels longer than the obovoid capsule 12. *L. surreptans*.

Leaves toothed. Pedicels slender, much longer than the leaves.

Leaves ovate or orbicular, mostly petiolate, thin 13. *L. membranacea*.

Leaves sessile, linear or linear-lanceolate 14. *L. stenophylla*.

Leaves sessile, ovate or orbicular, prominently toothed 15. *L. quadrangularis*.

Flowers more or less dioecious, the males with an entire stigma and very short ovary with abortive ovules; females with rudimentary stamens or abortive anthers.

Slender annual. Stamens in the female rudimentary 16. *L. dioica*.

Perennials, decumbent or creeping at the base. Anthers in the female without pollen or quite abortive.

Glabrous. Leaves oblong or lanceolate, toothed. Pedicels long 17. *L. purpurascens*.

Pubescent. Leaves linear or oblong, entire or toothed. Pedicels shorter or not much longer than the leaves 18. *L. pratoides*.

L. erinus, Linn., A. DC. Prod. vii. 370, a decumbent plant with something of the habit of *L. anceps*, but the stems not winged, usually hirsute at the base, and much larger blue flowers on longer pedicels, a S. African species much cultivated for ornament, has established itself in the vicinity of gardens about Melbourne (*F. Mueller*).

L. longiscapa, De Vr. in Pl. Preiss. i. 398, from the interior of S.W. Australia, Preiss, n. 1435, is unknown to me, but, from the character given, it seems very doubtful whether it belongs to the genus.

L. dubia, De Vr. in Pl. Preiss. ii. 242, from Swan River, *Preiss*, n. 1440, is still more doubtful and not described so as to be capable of identification.

SECT. I. HOLOPOGON.—All the anthers bearded, that is, tipped with a tuft of short, rigid hairs or bristles. Annuals (except the last two species), either erect or the lateral branches shortly decumbent. Flowers either terminal and solitary or in terminal racemes, or in *L. Bergiana* the lower ones axillary.

1. ***L. heterophylla***, *Labill. Pl. Nov. Holl.* i. 52. t. 74. An erect annual, simple or slightly branched, more or less pubescent or hirsute with short hairs, rarely almost glabrous, $\frac{1}{2}$ to $1\frac{1}{2}$ ft. high. Lower leaves usually pinnatifid, with few, narrow-linear lobes or the radical ones sometimes obovate and deeply cut, the upper ones small, linear and entire. Flowers rather large, in a loose, one-sided raceme, the pedicels mostly longer than the calyx-tube, with 1 or 2 linear bracteoles at their base, which, however, are sometimes wanting. Calyx-lobes almost subulate, longer than the tube. Corolla $\frac{3}{4}$ to nearly 1 in. long, of a deep blue, the middle lower lobe very broadly obovate or obcordate, the lateral ones shorter and oblong or obovate, the upper ones still shorter and narrower. Anthers all tipped with a dense tuft of short bristles. Capsule broadly obovoid, usually about 3 lines long, oblique, but less so than in *L. gibbosa*. Seeds much longer than in *L. gibbosa*, the 3 angles bordered by scarious, transparent wings.—R. Br. Prod. 564; A. DC. Prod. vii. 359; Bot. Reg. t. 2014; Paxt. Mag. ix. 101, with a figure (a weak, elongated, almost twining form).

W. Australia. Swan River, *Huegel, Drummond, 1st Coll.* (n. 420 F), *Oldfield*; Murchison river and Gordon river, *Oldfield*; eastward from King George's Sound, *R. Brown*, to Cape le Grand, *Maxwell*. The Tasmanian station given by A. De Candolle is taken from the 'Botanical Register,' where, through a nurseryman's mistake, the plant is said to have been raised from Tasmanian seeds. Drummond's very imperfect specimens, n. 184, appear to be an almost glabrous form, with oblong-linear, obtuse, almost entire leaves. In the species generally, the form and proportion of the lobes of the corolla and the hairs of the upper ones appear to be somewhat variable.

2. ***L. gibbosa***, *Labill. Pl. Nov. Holl.* i. 50. t. 71. An erect, glabrous annual, simple or with a few, erect branches, $\frac{1}{2}$ to $1\frac{1}{2}$ ft. high. Leaves not numerous, linear, entire or with a few small teeth or rarely the lower ones broader and deeply toothed. Flowers of a deep blue, in a terminal, one-sided raceme, the pedicels usually short, between 2 short, linear bracteoles, the subtending bract often wanting, and sometimes the bracteoles also. Calyx-lobes very narrow, about as long as the short, broad tube. Corolla variable in size, often above $\frac{1}{2}$ in. long, the 3 lower lobes oblong, obtuse or acute, the 2 upper ones shorter, incurved, acute, glabrous or with a few long hairs. Anthers all tipped with a tuft of short bristles. Capsule from

$\frac{1}{4}$ to nearly $\frac{1}{2}$ in. long, broadly and very obliquely obovate, gibbous on the upper side. Seeds very numerous, variable in size, always much smaller than in *L. heterophylla*, with 3 more or less prominent angles, but not winged.—R. Br. Prod. 564; A. DC. Prod. vii. 358; Hook. f. Fl. Tasm. i. 238; *L. simplicicaulis*, R. Br. l. c.; A. DC. l. c.; *L. stricta*, R. Br. l. c.; *L. Browniana*, Rœm. et Schult. Syst. v. 71; A. DC. Prod. vii. 359.

Queensland. Shoalwater Bay, *R. Brown*; Burdckin Expedition, *Fitzalan*; Port Denison, *Bowman*; Moreton Island, *F. Mueller*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *A. Cunningham*, *Woolfs*; New England, *C. Stuart*; Hastings river, *Beckler*.

Victoria. Common in dry pastures from the western limits to Wilson's Promontory, Dandenong Ranges, etc., *F. Mueller* and others.

Tasmania. Mount Wellington and Port Dalrymple, *R. Brown*; abundant in light, sandy soil, *J. D. Hooker*.

S. Australia. Memory Cove, *R. Brown*; Lofly Ranges, *F. Mueller*; Boston Point, Port Lincoln, etc., *Wilhelmi*; Kangaroo Island, *Waterhouse*.

W. Australia. *Drummond*, n. 177; Murchison river, *Oldfield*; Swan River, *Fraser* and others; Salt River, *Marwell*.

The differences in the hairiness of the upper lobes of the corolla, as already observed by J. D. Hooker, appear far too variable to serve for specific characters. The Northern specimens are generally more slender, with smaller flowers, than the Southern ones, but I can find no other difference.

3. ***L. dentata***, *Cav. Ic.* vi. 14. t. 522. Very nearly allied to, and probably a variety of *L. gibbosa*, but weaker, and not so erect, sometimes very scrambling and almost twining, approaching in foliage and inflorescence the *L. gracilis*. Lower leaves small, ovate, deeply cut, the others few, narrow, pinnatifid or toothed. Raceme very loose, the flowers fewer, on longer pedicels than in *L. gibbosa*, but as large as in that species, the middle lower lobe oblong, not obovate as in *L. gracilis*. Capsule obovoid, broad, very oblique, and gibbous on the upper side. Seeds small, ovoid or 3-angled, smooth.—R. Br. Prod. 564; A. DC. Prod. vii. 364.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; Clarence river, *Beckler*.

4. ***L. gracilis***, *Andr. Bot. Rep.* t. 340. A glabrous annual, erect, or branching and shortly decumbent at the base, more slender than *L. gibbosa*, and usually under 1 ft. high. Leaves small, the lowest ones ovate and deeply cut, the others lanceolate and pinnatifid, or linear and toothed or entire, all narrowed at the base. Flowers rather smaller than in *L. gibbosa*, on long pedicels, in a very loose, unilateral raceme, the lower subtending bracts often more or less leaf-like. Calyx of *L. gibbosa*. Corolla with the middle lower lobe obovate, the lateral ones oblong or obovate-oblong, the 2 upper ones incurved, hairy or glabrous. Capsule rarely 2 lines diameter, as broad as long, very oblique, gibbous on the upper side. Seeds very small.—R. Br. Prod. 563; A. DC. Prod. vii. 364; Bot. Mag. t. 741; *L. dentata*, Sieb. Pl. Exs. not of Cav.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 179, and others.

Var. *major*. Larger and more luxuriant, with larger, deeply-toothed leaves, the flowers larger, but with the broad lower corolla-lobe of *L. gracilis*.—*L. trigonocaulis*, Hook. Bot. Mag. t. 5088, not of F. Muell.—Crevices of rocks, Mount Lindsay, *W. Hill*.

5. ***L. rhytidosperma*, Benth.** An erect annual, simple or slightly branched, glabrous or very sparingly and minutely pubescent, $\frac{1}{2}$ to 1 ft. high. Radical leaves obovate, toothed, lower stem ones pinnatifid, upper ones small, linear, and scarcely toothed. Flowers large, singly terminating the stems and long branch-like peduncles. Calyx-tube narrow, the lobes often 3 to 4 lines long, but variable. Corolla nearly of *L. heterophylla*, the middle lower lobe broadly obovate, the lateral ones smaller, the 2 upper smaller, incurved, and usually hairy. Capsule slightly oblique but not gibbous, when full grown 6 to 8 lines long and 2 to $2\frac{1}{2}$ lines broad, tapering at the base. Seeds small, ovate, convex and prominently tubercular-rugose on the back, smooth but opaque and with a prominent rib on the inner face.—*L. simplicicaulis*, Benth. in Hueg. Enum. 74, not of R. Br.

W. Australia. Swan River, *Huegel*, *Drummond*, 1st Coll. n. 419, 421. Very near the more simple, erect forms of *L. tenuior*, but the flowers are larger, and the seeds very different.

6. ***L. tenuior*, R. Br. Prod. 564.** An annual, more or less pubescent or hirsute, with short hairs or rarely nearly glabrous, branching and slightly decumbent at the base, with erect or ascending stems, often 1 ft. high or more, each with a single terminal flower or branching into few, long, 1-flowered peduncles. Radical leaves usually small, obovate, and deeply toothed; stem leaves linear, the lower ones pinnatifid, the upper small, linear, and entire or toothed. Flowers large, like those of *L. heterophylla*, but the calyx-tube narrow. Middle lower lobe of the corolla broadly obovate, the lateral ones also obovate, the 2 upper much smaller, incurved. Capsule when full grown 6 to 8 lines long and 2 to $2\frac{1}{2}$ lines broad, tapering at the base, scarcely oblique. Seed small, compressed, very smooth and shining, without prominent angles.—*L. ramosa*, Benth. in Maund. Botanist, ii. t. 93; A. DC. Prod. vii. 359; *L. longepedunculata*, De Vr. in Pl. Preiss. i. 394, erroneously referred to *L. simplicicaulis* in Pl. Preiss. ii. 242; *L. adscendens*, De Vr. in Pl. Preiss. i. 395; *L. heterophylla*, Hook. Bot. Mag. t. 3784, not of Labill.; Paxt. Mag. vi. 197, with a figure.

W. Australia. King George's Sound, *R. Brown*, *F. Mueller*; Swan River, *Huegel*, *Drummond*, 1st Coll., also *Suppl. n. 4*, *Preiss. n. 1425, 1452*. *L. ciliata*, De Vr. in Pl. Preiss. i. 397, from the same locality, appears to be the same species, but the seeds are not yet sufficiently formed to be certain. I find I had correctly identified this species in describing Huegel's plants at Vienna, but afterwards, owing to a misprint in Nees' edition of Brown's 'Prodromus,' where (T) is given for this plant instead of (M), I fancied I must have been wrong in identifying a south-western with a tropical species, and described it as new under the name of *L. ramosa*.

7. ***L. rhombifolia*, De Vr. in Pl. Preiss. i. 397.** A glabrous annual, branching and decumbent at the base, with usually numerous, erect or ascending branches, from 3 or 4 in. to nearly 1 ft. high. Lower leaves obovate or cuneate, and deeply cut, $\frac{1}{2}$ to $\frac{3}{4}$ in. long, the others small, few, lanceolate or almost linear, mostly with a few deep teeth or lobes. Flowers resembling those of *L. gracilis*, but on long, slender peduncles, terminating the stems and branches. Calyx-lobes very narrow, longer than the tube. Corolla about $\frac{1}{2}$ in. long or rather more, the middle lobe narrow-obovate. Anthers all tipped with tufts of short bristles. Capsule very obliquely

obconical, and gibbous on the upper side, about 3 lines long. Seeds very small and numerous, smooth, but opaque.

S. Australia. Onkaparinga and Encounter Bay, *F. Mueller*; Mount Jagged and Mount Barker, *Whittaker*.

W. Australia. King George's Sound, *Wakefield*; Kalzan and Vasse rivers, *Oldfield*; Albany, Upper Kalzan, and Hay rivers, *F. Mueller*; Swan River, *Drummond*, 1st Coll. n. 422.

F. Mueller believes this to be a variety of *L. parvifolia*, of which it has many characters, but the foliage is more that of *L. gracilis*. I refer it to De Vriese's *L. rhombifolia* from the diagnosis given, for I have not seen Preiss's specimens, n. 1439, from Mount Elphinstone and Swan River.

8. ***L. parvifolia*, R. Br. Prod. 564.** An erect, glabrous annual, $\frac{1}{2}$ to 1 ft. high or rarely more, simple or slightly branched. Leaves few and very small, lanceolate or linear, sessile or slightly decurrent, entire or scarcely toothed. Flowers few, rather large, terminal or on long, branch-like peduncles, forming sometimes a loose panicle, but not racemose. Calyx-lobes narrow, longer than the short tube. Corolla 6 to 8 lines long, the lower middle lobe obovate, the lateral ones narrower, the upper ones smaller and incurved. Anthers all tipped with tufts of short bristles. Capsule about 3 lines long, very obliquely obovoid, and gibbous on the upper side. Seeds very small, compressed, smooth, but opaque.—*A. DC. Prod. vii. 359.*

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Drummond*, n. 58, *Oldfield*; eastward to Cape le Grand, *Maxwell*.

9. ***L. trigonocaulis*, F. Muell. Pragm. i. 18.** Nearly glabrous or sprinkled with a few, small hairs. Stems (from a perennial rootstock?) creeping at the base, weak, and ascending to 1 ft. or more, somewhat 3-angled. Leaves all on rather long petioles, ovate-cordate or the lower ones almost orbicular, coarsely toothed or crenate, $\frac{1}{3}$ to above 1 in. diameter. Flowers few and distant, in a terminal raceme, on short pedicels, in the axils of very small, linear bracts. Calyx-tube broadly turbinate, the lobes narrow and rather longer. Corolla fully $\frac{1}{2}$ in. long, the lower lobes oblong, rather acute, the 2 upper ones shorter and incurved. Filaments hairy at the base; anthers all tipped with tufts of short bristles. Capsule almost globular or broader than long, scarcely oblique. Seeds ovoid, rather large, minutely foveolate.

Queensland. Shady forests, Brisbane river, Moreton Bay, *F. Mueller*.

N. S. Wales. Hastings and Macleay rivers, *Beckler*; New England, *C. Stuart*.

10. ***L. Bergiana*, Cham. in Linnæa, viii. 217.** A glabrous perennial, with a slender, creeping rootstock (or sometimes annual?), the stems procumbent ascending or erect, often 2 to 3 feet long, slightly 3-angular or compressed. Lower leaves often petiolate, obovate or cuneate, the others sessile or nearly so, oblong lanceolate or linear, entire or slightly-toothed, passing gradually into the narrower floral leaves, the uppermost reduced to small bracts. Flowers sessile in the axils of the floral leaves or bracts, between 2 linear bracteoles. Calyx-tube linear, the lobes narrow, acute, serrulate or ciliate. Corolla about 4 lines long, the 3 lower lobes united in a broad, 3-lobed lip, the 2 upper ones narrower, curved, and ascending.

Anthers all tipped with a tuft of short bristles, otherwise glabrous. Capsule linear, $\frac{3}{4}$ to 1 in. long, the conical summit opening loculicidally in 2 valves, as in other *Lobelias*, the adnate tube usually splitting when old into 2 valves parallel to the dissepiment, but remaining entire at the top and the base.—*Grammatotheca* (the whole genus), Presl, Prod. Mon. Lob. 43; A. DC. Prod. vii. 348; *G. erinoides*, Sond. Fl. Cap. iii. 532, with the synonyms adduced; *G. Dregeana*, Presl, l. c.; A. DC. Prod. vii. 348, 784; Deless. Ic. Sel. v. t. 6; F. Muell. Fragm. iv. 171; *Lobelia macrocarpa*, De Vr. in Pl. Preiss. i. 396; *L. amplexicaulis*, De Vr. l. c. 397; *L. stenotheca*, F. Muell. Fragm. ii. 20.

W. Australia, *Drummond*, n. 43. 156, 179; wet, swampy places or growing in water, *Gordon*; *Tone*, *Moore*, and *Murchison* rivers, *Oldfield*; borders of Lake Keermula and Sussex district, *Preiss*, n. 1453, 1443. The species is also common in S. Africa.

The proposed genus *Grammatotheca* (of which *Sonder* is quite correct in reducing the supposed species to a single one) was founded on the capsule said to be triquetrous, 1-celled, with parietal placentas, and opening laterally in 3 valves, of which 2 bear the placentas; an extraordinary structure, copied from Presl by A. De Candolle and by *Sonder* without verification, and for which I cannot trace the slightest foundation. Probably in a very careless, superficial observation Presl mistook the dissepiment for a third valve, and imagined the rest from *Chamisso*'s having associated the plant with *Antonia* on account of the linear capsule. The true structure, already alluded to by R. Brown (Prod. p. 562) is very well represented in the above-quoted 'leours' of Delessert. This splitting of the capsule can scarcely be called a dehiscence, which is on the summit as in other *Lobelias*, and the habit is too near that of *L. anceps*, in which the capsule is almost linear, to admit of its generic separation. I have not taken up the specific name *erinoides* as being that given by *Thunberg*, for, although this plant may be so named in *Thunberg*'s herbarium, he evidently had chiefly in view *Linnaeus*'s *L. erinoides*, as he quotes the synonym from *Willdenow*, where the capsule is described as obovate.

SECT. II. HEMIPOGON.—Two lower anthers tipped with tufts of short bristles or with single bristles or points, sometimes very minute, 3 upper ones without terminal bristles, but sometimes with short hairs on the back. Stems usually prostrate or creeping, or the branches ascending or erect from a decumbent base. Flowers solitary, on axillary pedicels, the uppermost rarely forming a leafy raceme.

11. **L. anceps**, *Thunb.*; DC. Prod. vii. 375. A glabrous perennial, the rootstock often shortly creeping; stems decumbent, ascending or erect, from a few in. to 1½ ft. long, angular or more or less winged by the decurrent leaves. Lower leaves petiolate, obovate or cuneate, sometimes 2 in. long but usually smaller, the larger stem-leaves oblong-spathulate, lanceolate or almost linear, passing gradually into narrow, sessile floral leaves, the uppermost reduced to very small bracts, all entire or sparingly toothed. Flowers small, on very short, axillary pedicels, the upper ones forming a slender raceme. Calyx-lobes broadly lanceolate, acute, not half so long as the linear-cuneate tube. Corolla blue or almost white, the lower lobes forming a broadly obovate, 3-fid lip, the 2 upper ones small, acute, and falcate. Anthers with a few short hairs on the back, the 2 lower ones tipped with a tuft of short bristles. Capsule oblong-linear, 3 to 4 lines or in luxuriant specimens 5 lines long, contracted at the base.—Hook. f. Fl. Tasm. i. 237; *L. decumbens*, Sims, Bot. Mag. t. 2277; *L. rhizophyta*, Schult.; Sims, Bot.

Mag. t. 2519; *L. alata*, Labill. Pl. Nov. Holl. i. 51. t. 72; R. Br. Prod. 562; De Vriese in Pl. Preiss. i. 395; *L. cuneiformis*, Labill. Pl. Nov. Holl. i. 51. t. 73; *L. uncinata* and *L. stricta*, De Vr. in Pl. Preiss. i. 396.

Queensland. Port Curtis, *M'Gillivray*.

N. S. Wales. Port Jackson, *R. Brown*, *Woolfs*; Hastings and Clarence rivers, *Beckler*; Twofold Bay, *F. Mueller*; Lord Howe's Island, *M'Gillivray*.

Victoria. Port Phillip, *R. Brown*; chiefly near the sea, from Glenelg river to Wilson's Promontory, *F. Mueller* and others.

Tasmania. Common in marshy places, especially near the sea, *J. D. Hooker*.

S. Australia. Memory Cove, *R. Brown*; around St. Vincent's Gulf, *F. Mueller*; Kangaroo Island, *Waterhouse*.

W. Australia. From King George's Sound and adjoining districts, *R. Brown*, *A. Cunningham*, *Preiss*, n. 1496, and others, to Swan River, *Fraser*, *Huegel*, *Preiss*, n. 1431, 1443, and Murchison river, *Oldfield* (with longer pedicels), and eastward to Middle Island, *Maxwell*.

The species is also in New Zealand, South Africa, and extratropical South America.

On the immediate seacoast the leaves are often larger, firmer, and more obovate, but this form, which is the *L. cuneiformis*, Labill., can scarcely be called a distinct variety, for many specimens show this broad foliage at the base, whilst some branches grow out with the narrower leaves of the ordinary form. To this obovate form belongs also probably *L. saxicola*, De Vr. in Pl. Preiss. i. 395, from the rocks on Mistaken Island, *Preiss*, n. 1495, which, however, I have not seen.

L. erecta, De Vr. l. c. 395, from Swan River, *Preiss*, n. 1447, which I have not seen, must, from his description, be a luxuriant form of the same species, said to attain 6 to 8 ft.

L. angustifolia, Benth. in *Hueg. Enum.* 74; A. DC. Prod. vii. 358, was described from imperfect specimens, which, on further examination, appear to be the summits of a very luxuriant plant of *L. anceps*, with narrow-linear floral leaves 2 to 4 in. long.

12. ***L. surrepens***, *Hook. f. Fl. Tasm.* i. 237. t. 69 A. A small glabrous creeping or prostrate perennial, the branching stems from 1 or 2 in. to near 6 in. long. Leaves obovate or oblong-cuneate, obtuse, quite entire or rarely obscurely toothed, $\frac{1}{2}$ to near 1 in. long. Pedicels axillary, rarely as long as the leaves. Calyx-tube narrow-turbinate, the lobes short broad and obtuse. Corolla 3 to 4 lines long, the lobes oblong, nearly equal but oblique. Anthers glabrous, the lower ones tipped each with 1 or 2 rigid flat bristles or points. Fruit not seen ripe, but apparently capsular, the summit being conical as in *Lobelia*.

Tasmania. Marshy ground in alpine places at an elevation of 3000 to 4000 ft., *J. D. Hooker*. This resembles in some respects *Pratia platycalyx*, but the leaves are broader, the flowers twice as large, showing no signs of unisexuality, and the young fruit is that of *Lobelia*. From *Isotoma flaviatilis* it differs in the larger entire leaves, and in the corolla split to the base; from *L. anceps* in the shape of the capsule.

13. ***L. membranacea***, *R. Br. Prod.* 563. Glabrous, with long procumbent filiform stems, often rooting at the lower nodes. Leaves petiolate, broadly ovate-cordate or orbicular, thin and membranous, mostly sinuate-toothed, rarely much exceeding $\frac{1}{2}$ in. diameter, a few of the uppermost more sessile and ovate. Flowers on long filiform axillary pedicels. Calyx-tube turbinate, the lobes small and narrow. Corolla 4 to 5 lines long, the lower lobes oblong, the upper ones narrower, more acute, and incurved. Upper anthers hirsute on the back without terminal tufts, lower ones with a single small bristle or point on each. Capsule obovate-turbinate, straight, about 2 lines long. Seeds very small.—A. DC. Prod. vii. 365.

Queensland. Bustard Bay, *Banks and Solander* (with particularly large and thin leaves); Port Curtis, *M'Gillivray*; Rockingham Bay, *Dallachy*; Moreton Bay, *F. Mueller*.

Victoria. Some specimens from Fitzroy river, *Robertson*, appear to belong to this species, though with rather smaller leaves.

14. ***L. stenophylla*, Benth.** Glabrous. Stems (from a creeping base?) very slender, ascending and often above 1 ft. long. Leaves sessile or nearly so, linear or linear-lanceolate, minutely and remotely toothed or entire, often above 1 in. long. Pedicels axillary, usually more than twice as long as the leaves. Calyx-lobes as long as or longer than the turbinate tube. Corolla about 4 lines long, the lobes nearly of equal length, the 3 lower obovate-oblong, the 2 upper narrower, more acute, and curved upwards. Anthers glabrous, without terminal tufts, but the 2 lower tipped each with a small bristle. Capsule obovate, 2 to $2\frac{1}{2}$ lines long, scarcely oblique.

N. Australia. Port Essington, *Armstrong*.

Queensland. Burnett river, *F. Mueller*; Rockhampton, *O'Shaughy*; Broadsound, *Herb. F. Muell.*; Brisbane river, Moreton Bay, *Backhouse, F. Mueller*.

15. ***L. quadrangularis*, R. Br. Prod. 563?** A glabrous or rarely pubescent perennial, the stems much-branched, prostrate (or ascending?), angular. Leaves nearly sessile, ovate or orbicular, prominently toothed, rather thin, rarely exceeding $\frac{1}{2}$ in. Pedicels axillary, long and slender. Calyx-lobes lanceolate, about as long as the narrow turbinate tube. Corolla about 3 lines long, the lower lobes oblong, the 2 upper ones rather shorter, narrower and acute. Anthers glabrous or minutely pubescent on the back, without terminal tufts, but the lower ones tipped with 2 or 3 very small bristles. Capsule obovate-oblong, slightly oblique, about 3 lines long. Seeds very small and numerous.—A. DC. Prod. vii. 365; F. Muell. Fragm. iv. 182.

N. Australia. Banks of brooks and streams, Victoria and Fitzmaurice rivers, *F. Mueller*. Described from F. Mueller's specimens, at first distributed as *L. humistrata*, F. Muell., but afterwards referred by him, and probably correctly so, to *L. quadrangularis*, which was described by R. Brown from a specimen of Bauer's which I have not seen. It is not in Brown's herbarium.

16. ***L. dioica*, R. Br. Prod. 565.** A slender much-branched annual of 3 to 6 in., glabrous or sprinkled with a few short spreading hairs. Leaves sessile, oblong or lanceolate, bordered by a few small teeth or entire, 3 to 6 lines long, the floral ones gradually smaller. Flowers dioecious, on very slender pedicels in the axils of the upper leaves and much longer than them, forming a terminal leafy raceme, numerous and crowded at the ends of the branches in the males, fewer and more distant in the females. Calyx-lobes linear, about $\frac{1}{2}$ line long, the males without any tube, the females with an adnate tube of about $\frac{1}{2}$ line. Corolla about $1\frac{1}{2}$ lines long, the tube slit open on the upper side, the lobes obovate-oblong, nearly equal, but oblique. Anthers in the males slightly pubescent, the upper ones without terminal tufts, the 2 lower tipped by a very few small bristles; the stamens rudimentary in the females. Stigma in the males small and entire, and the ovules abortive, but in the females the stigma is broadly 2-lobed as in other *Lobelias*. Capsule obovoid-oblong, about 2 lines long, scarcely oblique.—*Monopsis*

dioica, Presl, Prod. Mon. Lob. 11; *Holostigma dioicum*, G. Don, Gen. Syst. iii. 716, A. DC. Prod. vii. 352.

N. Australia. Gulf of Carpentaria, opposite Groote Island, *R. Brown*; Roper river and near Macadam Range, *F. Mueller*.

17. **L. purpurascens**, *R. Br. Prod.* 563. Quite glabrous. Stems, from a perennial rootstock, branched, procumbent or ascending, angular, often above 1 ft. long, but sometimes very small and short. Leaves shortly petiolate or almost sessile, from ovate to oblong-lanceolate, toothed, rather firm, usually from $\frac{1}{2}$ to 1 in. long. Pedicels axillary, much longer than the leaves, often reflexed after flowering. Flowers (in all the specimens seen) diœcious. Calyx-lobes narrow, acute, the tube very short or scarcely any in the males, obconical and rather narrow in the females. Corolla 4 to 5 lines long, the lower lobes oblong, obtuse, the 2 upper ones rather shorter narrower more acute and incurved. Anthers in the males glabrous, without terminal tufts, but the 2 lower tipped with 1 or 2 small bristles, smaller and without pollen or abortive in the females. Stigma small and undivided, and ovules abortive in the males, the stigma broadly 2-lobed in the females. Capsule narrow-ovoid, fully 3 lines long, the conical summit opening in 2 valves as in *Lobelia*; the seeds rather large and often flattened as in *Pratia*.—A. DC. Prod. vii. 365.

Queensland. Southern tributaries of the Burnett river, *F. Mueller*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; New England, *C. Stuart*; Hastings and Macleay rivers, *Beckler*.

Victoria. Along brooks near the mouth of the Snowy River, *F. Mueller*; Grampians, *Wilhelmi* (the latter a very small form).

The species has some resemblance with *Pratia Cunninghamii*, but is at once known by the long usually recurved pedicels.

18. **L. pratioides**, *Benth.* A slender creeping or prostrate much-branched perennial, more or less hoary with a minute pubescence. Leaves linear oblong or lanceolate, bordered by small distant teeth or rarely entire, mostly sessile but narrowed at the base, $\frac{1}{4}$ to $\frac{1}{2}$ in. long, the lower ones rarely obovate. Flowers small, on axillary pedicels shorter or rather longer than the leaves, more or less diœcious. Calyx-tube scarcely any in the males, turbinate in the females. Corolla about 4 lines long, the lobes oblong, nearly equal but oblique. Anthers in the males glabrous, the upper ones without terminal tufts, the 2 lower tipped with a tuft of short bristles, glabrous and empty or abortive in the females. Capsule obliquely obovate, $2\frac{1}{2}$ lines long, the conical summit opening in 2 valves as in other *Lobelias*.

Victoria. Yarra river, Forest Creek, and Station Peak, *F. Mueller*; Wendu Vale, *Robertson*; Australian Pyrenæes, *Wilhelmi*.

Tasmania. South Esk river near Perth, *C. Stuart*.

This species has some resemblance with *Pratia puberula*, but the leaves are much narrower and the fruit that of a *Lobelia*.

2. PRATIA, Gaudich.

Calyx of *Lobelia*. Corolla slit open on the upper side, 5-lobed, the lobes nearly equal but very oblique. Stamens of *Lobelia*. Ovary inferior, 2-celled,

the summit between the calyx-lobes nearly flat. Style and stigma of *Lobelia*. Fruit ovoid or globular, crowned by the calyx-lobes, indehiscent, the pericarp usually succulent. — Herbs, with the habit of the section *Hemipogon* of *Lobelia*, usually creeping at the base, the branches sometimes ascending. Flowers white (or blue?) on axillary pedicels, and in most of the Australian species more or less dioecious, by the abortion or sterility of the anthers in the females, and of the ovary, ovules, and stigma in the males.

A small genus, containing, besides the Australian species which are all endemic, five or six others dispersed over New Zealand, antarctic and extratropical South America. It should probably include *Piddingtonia*, which differs in the greater irregularity of the corolla, and both are only artificially distinguished from *Lobelia* by the indehiscent more or less succulent fruit.

Glabrous. Leaves entire or obscurely toothed.

Flowers and fruits almost sessile.

Leaves ovate or orbicular, 1 to 2 lines long 1. *P. irrigua*.

Leaves linear, 3 to 4 lines long 2. *P. gelida*.

Pedicels at least as long as the fruit. Leaves linear-cuneate or oblong-spathulate 3. *P. platycalyx*.

Glabrous. Leaves ovate or oblong, toothed, $\frac{1}{2}$ to 1 in. long. Pedicels shorter or scarcely longer than the leaves 4. *P. erecta*.

Pubescent. Leaves ovate or orbicular.

Pedicels shorter or scarcely longer than the leaves. Fruit 2 to 3 lines diameter 5. *P. puberula*.

Pedicels much longer than the very small leaves. Fruit 1 to $1\frac{1}{2}$ lines diameter 6. *P. pedunculata*.

1. *P. irrigua*, *Benth.* A little creeping glabrous perennial, scarcely rising from the ground but forming intricate masses of several inches diameter. Leaves ovate or orbicular, entire or scarcely toothed, 1 to 2 lines diameter. Flowers very small, on exceedingly short axillary pedicels or almost sessile. Calyx-lobes lanceolate. Corolla scarcely more than 1 line long, the lobes narrow, nearly equal, the 2 upper ones ascending and more acute. Stamens glabrous, with a minute bristle on each of the 2 lower anthers. Fruit globular, indehiscent, about $1\frac{1}{2}$ lines diameter, with a thin pericarp. Seeds numerous, but rather large for the fruit, globular, smooth. — *Lobelia irrigua*, R. Br. Prod. 563; A. DC. Prod. vii. 367.

Tasmania. Kent's group, Bass's Straits, R. Brown (*Herb. R. Br.*).

2. *P. gelida*, *Benth.* A little creeping glabrous perennial, like *P. irrigua*, except that the leaves are linear, obtuse, entire and mostly 3 to 4 lines long. Flowers, as in that species, very small and almost sessile. Stamens the same with a minute bristle on each of the 2 lower anthers. Fruit globular, indehiscent, about $1\frac{1}{2}$ lines diameter, with a thin pericarp and rather large globular seeds. — *Lobelia gelida*, F. Muell. Fragm. iv. 183.

Victoria. Summit of Haidinger Range, at an altitude of 5000 to 6000 ft., F. Mueller. I do not feel certain that this and the preceding species are dioecious, as in the other Australian *Pratias*, but I think they are. The fruit is certainly that of *Pratia*, globular, without the conical 2-valved apex of the *Lobelia* capsule.

3. *P. platycalyx*, *Benth.* A small glabrous creeping or prostrate perennial. Leaves from obovate-cuneate and under $\frac{1}{2}$ in. long to oblong or linear and above 1 in. long, obtuse, quite entire, more or less narrowed into a petiole, thick and smooth. Flowers small, on very short axillary pedicels.

Calyx-tube hemispherical in the males, ovoid in the females, the lobes short and broad, almost triangular. Corolla a little more than 1 line long, the lobes nearly equal, but oblique. Anthers in the males glabrous, the lower ones tipped with very minute points, and enclosing the small globular stigma; in the females the anthers are empty or abortive, with the rather large 2-lobed stigma protruding. Fruit ovoid-globular. Seeds rather large, ovate, compressed.—*Laurentia platycalyx*, F. Muell. in Trans. Vict. Inst. 1855, 39; *Lobelia platycalyx*, F. Muell. Fragm. iv. 183.

Victoria. In moist subalpine pastures from Port Phillip westward, *F. Mueller*, *Adamson*; Queenscliff and near Station Peak, *F. Mueller*.

4. **P. erecta**, *Gaudich. in Freyc. Voy. Bot.* 456. Glabrous, with a perennial rootstock and branching prostrate ascending or erect stems from a few in. to nearly 1 ft. long, but usually under 6 in. Leaves sessile or nearly so, ovate oblong or lanceolate, serrate, $\frac{1}{2}$ to 1 in. long, rather firm. Flowers axillary, the pedicels either very short or rarely as long as the leaves. Calyx-tube in the males very shortly turbinate or scarcely any, ovoid in the females, the lobes lanceolate, $\frac{1}{2}$ to $\frac{3}{4}$ line long. Corolla $2\frac{1}{2}$ to 3 lines long, the lobes lanceolate, nearly equal, but the 2 upper more deeply separate. Anthers in the males glabrous, the 2 lower ones tipped with a tuft of minute bristles, all empty or abortive in the females. Fruit nearly globular, 3 to 4 lines diameter, slightly succulent.—*Lobelia concolor*, R. Br. Prod. 563; *Isolobus concolor* and *I. Cunninghamii*, A. DC. Prod. vii. 354; *Pratia Cunninghamii*, Hook. f. Fl. Antart. i. 42.

Queensland. Suttor river, *F. Mueller*; Rockhampton and Bowen river, *Bowman*; in the interior, *Mitchell*.

N. S. Wales. Paterson's River, *R. Brown*; inundated banks of the Lachlan and Macquarrie rivers, *A. Cunningham*, *Fraser*.

Victoria. Borders of stagnant waters, *Avoca* and *Bremer* rivers, *F. Mueller*.

5. **P. puberula**, *Benth.* A small creeping or prostrate perennial, more or less pubescent. Leaves sessile, ovate or almost orbicular, toothed or almost entire, mostly 2 to 4 lines, rarely $\frac{1}{2}$ in. long. Flowers axillary, the pedicels shorter or rarely longer than the leaves. Calyx-tube in the males very short or almost none, in the females ovoid, the lobes lanceolate, acute. Corolla about 3 lines long, the lobes nearly equal, but oblique and almost acute. Anthers in the males glabrous, the 2 lower ones each with a single minute bristle, empty or abortive in the females. Fruit globular, about 3 lines diameter, slightly succulent. Seeds rather large, ovoid or compressed.

N. S. Wales. Glendon, *Leichhardt*.

Victoria. Moist, grassy, and marshy places at Cobra and Mount Barkly, *F. Mueller*.

S. Australia. Cooper's Creek, *Bowman*.

This species bears some general resemblance to *Lobelia pratensis* and *Isoloma fluviatilis*, but is readily distinguished by the generic characters.

6. **P. pedunculata**, *Benth.* A very slender and slightly pubescent perennial, the intricate filiform creeping or prostrate stems extending to broad patches, with very shortly ascending flowering branches. Leaves almost sessile, ovate or orbicular, with few prominent teeth, 2 to 3 lines diameter. Flowers small, on slender axillary pedicels considerably longer than the

leaves. Calyx-tube very short in the males, obconical in the females, the lobes narrow-lanceolate, obtuse. Corolla 2 to $2\frac{1}{2}$ lines long, the lobes nearly equal but very oblique. Fruit very small, pubescent, globular, not seen quite ripe, but evidently without the conical 2-valved summit of *Lobelia*.—*Lobelia pedunculata*, R. Br. Prod. 563; A. DC. Prod. vii. 367; Hook. f. Fl. Tasm. i. 237, t. 69 B.

N. S. Wales. Hunter's River, *R. Brown*.

Victoria. Ballan, Cape Otway, Apollo Bay, *F. Mueller*; Portland, *Allitt*; Emu Creek, *Whan*.

Tasmania. Not uncommon in good soil where damp, on the margins of rivers, and occasionally on mountains, *J. D. Hooker*. In the excellent plate in the 'Flora Tasmanica,' the whole specimen represented is a male; fig. 3 is a female, but the artist has inserted the anthers from a male, thinking, no doubt, that those he found in the flower drawn were accidentally not normally imperfect.

3. ISOTOMA, Lindl.

(*Lobelia*, sect. *Isotoma*, *R. Br.*; *Euchysia* (partly), *Presl*; *Laurentia* (partly), *A. DC.*)

Calyx of *Lobelia*. Corolla-tube cylindrical, entire or rarely very shortly slit on the upper side; lobes 5, nearly equal, spreading, either quite horizontal or very shortly and obliquely campanulate at the base. Stamens inserted near the summit of the corolla-tube. Anthers of *Lobelia*, the upper ones without terminal tufts. Pistil, capsule, and seeds of *Lobelia*.—Herbs, with the habit of various species of *Lobelia*. Flowers axillary or in terminal racemes or solitary, on long scapes or peduncles, hermaphrodite in all the species known.

A small genus, perhaps too artificially distinguished from *Lobelia*, but the entire tube and epicorolline stamens are so exceptional in *Lobelieæ* that there may be a convenience in keeping it up. It is here characterized from the Australian species alone, which are all endemic. How far the extra-Australian species associated with it by Endlicher under the common name of *Laurentia*, and distributed into various genera by Presl and Alph. De Candolle, should or should not be considered as congeners, is a question requiring much further investigation. The precise form of the corolla, never perfectly regular, but more or less oblique, can scarcely be made use of for generic distinction, for, as far as can be judged of from dried specimens, it varies from species to species.

Erect and nearly simple. Flowers in a terminal, unilateral raceme. . . 1. *I. Brownii*.

Erect and branching. Flowers on long, axillary pedicels.

Leaves deeply toothed or cut. Flowers large.

Leaves linear, pinnatifid 2. *I. axillaris*.

Leaves ovate or lanceolate, with linear teeth or lobes 3. *I. petraea*.

Leaves oblong, small. Slender annual, with small flowers 4. *I. pusilla*.

Stems short or none. Leaves radical or nearly so. Scapes or erect

pedicels long and slender 5. *I. scapigera*.

Creeping or prostrate perennial. Leaves ovate. Pedicels axillary . . . 6. *I. flaviatilis*.

I. Baueri, Presl, Prod. Mon. Lob. 42; A. DC. Prod. vii. 412, described as having linear-lanceolate, serrate leaves, the upper ones ternately verticillate, and the corolla with ovate lobes twice as long as the entire tube, if an *Isotoma* at all, must be totally different from any species I have seen. No station but the general one of New Holland is given.

1. *I. Brownii*, *G. Don*, Gen. Syst. iii. 716. A glabrous, erect, simple or slightly branched annual, from 6 in. to $1\frac{1}{2}$ ft. high. Leaves narrow-linear, entire, mostly from $\frac{1}{2}$ to 1 in. long. Flowers often numerous, in a loose, unilateral, terminal raceme of 6 to 8 in., in the smaller specimens

reduced to a very few flowers or to a single one. Calyx like that of *Lobelia heterophylla*, the subulate lobes at least as long as the very oblique tube. Corolla-tube cylindrical, 6 to 8 lines long; lobes broadly spatulate, slightly unequal, spreading horizontally to a diameter of about $\frac{3}{4}$ in. Anthers glabrous, the 2 lower ones each with a single flat bristle or point. Capsule in some specimens very obliquely obovoid, gibbous on the upper side, and about 4 lines long, in others less oblique, oblong, and 5 to 6 lines long. Seeds small, ovoid or 3-angled, very smooth and shining.—A. DC. Prod. vii. 412; *Lobelia hypocrateriformis*, R. Br. Prod. 565; Bot. Mag. t. 3075; *Isotoma brevifolia*, Presl, Prod. Mon. Lob. 43 (from the character given); A. DC. Prod. vii. 412; *Lobelia Lehmanni*, De Vr. in Pl. Preiss. i. 394.

W. Australia. King George's Sound and adjoining districts, *R. Brown* and others, and thence to Swan and Murchison rivers, *Oldfield*, *Drummond*, *n.* 423, *Preiss*, *n.* 1426.

2. ***I. axillaris*, Lindl. Bot. Reg. t. 964.** A glabrous perennial, flowering the first year so as to appear annual, but forming at length a hard root-stock, erect, with few, spreading branches, $\frac{1}{2}$ to 1 ft. high. Leaves linear, irregularly pinnatifid, often 2 to 3 in. long, the lobes linear or linear-lanceolate. Pedicels axillary, 2 to 6 in. long. Flowers large, of a bluish-purple, very pale or with a yellowish-green tint outside. Calyx-lobes linear, rigid, as long as the oblong tube. Corolla-tube $\frac{3}{4}$ to 1 in. long, somewhat incurved and broader upwards; lobes spreading to a diameter of $\frac{3}{4}$ to 1 in., narrow, mucronate, slightly unequal, and not quite so flat as in *I. Brownii*. Anthers glabrous, the 2 lower ones with single, rigid bristles. Capsule cylindrical, tapering and slightly oblique at the base, 6 to 8 lines long, 2 to 3 lines broad. Seeds small, very minutely foveolate.—Gaudich. in Freye. Voy. 455. t. 70; *Lobelia senecioides*, A. Cunn. in Bot. Mag. t. 2702; *Isotoma senecioides*, A. DC. Prod. vii. 412; Bot. Mag. t. 5073.

Queensland. Rocks in most exposed situations, Rockhampton, *Dallachy*.

N. S. Wales, *Caley* (*Herb. R. Br.*); Mudgee, *Woolfs*; barren granite rocks near Bathurst, *Fraser*, *A. Cunninghamham*; between the Lachlan and Darling rivers, *Neilson*; New England, *C. Stuart*; Mount Mitchell, *Beckler*.

Victoria. Fissures of granite rocks, between Ten-mile Creek and Broken River, Mount Hope, Buffalo Ranges, *F. Mueller*.

3. ***I. petraea*, F. Muell. in Linnaea, xxv. 420.** Very closely allied to *I. axillaris*, and I should have proposed reducing it to a variety of that species but that, among numerous specimens from various localities, I have seen no intermediates. Habit, stature, inflorescence, flowers, and fruit the same, but the leaves are all ovate-oblong or elliptical, bordered by irregular linear or lanceolate teeth or lobes, but never longer than the breadth of the entire central part.

N. S. Wales. Goyinga Mountains, *Victorian Expedition*; between Stokes Range and Cooper's Creek, *Wheeler*.

S. Australia. Crystal Brook, *F. Mueller*; Purdie's Ponds, *Waterhouse*; Lake Gillies, *Burkitt*; Hugh's River, *M'Douall Stuart's Expedition*.

W. Australia. Between Moore and Murchison rivers, *Drummond*, *Gth Coll. n.* 47 or 67.

4. ***I. pusilla*, Benth. in Hueg. Enum. 75.** A glabrous annual of 2 to 4 in., usually erect and branching. Leaves oblong or lanceolate, mostly

sessile, obtuse, obscurely toothed, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Peduncles in the upper axils 1 to 2 in. long, slender, bearing each a small flower. Calyx-lobes lanceolate, longer than the tube. Corolla-tube slender, $1\frac{1}{2}$ lines long; lobes obovate, about as long as the tube, equally spreading, but the 2 upper ones rather smaller. Anthers usually glabrous, the 2 lower ones tipped each with a small bristle. Capsule narrow-turbinate, slightly oblique, about $2\frac{1}{2}$ lines long. Seeds small, ovate, smooth, and almost shining.—*Laurentia pusilla*, A. DC. Prod. vii. 411; *Lobelia elegans*, De Vr. in Pl. Preiss. i. 396.

W. Australia. Swan River, *Huegel, Drummond*, 1st Coll. n. 424 and n. 31; *Preiss*, n. 1434, 1436.

5. **I. scapigera**, *G. Don*, *Gen. Syst.* iii. 716. A slender, glabrous annual. Leaves either radical and rosulate or on a stem of $\frac{1}{2}$ to 1 in. long, petiolate, obovate or oblong, slightly toothed, rarely exceeding $\frac{1}{2}$ in., and often much smaller. Scapes or pedicels erect, leafless, slender, 3 to 6 in. long, 1-flowered. Calyx-lobes linear, narrow or broad, about as long as the tube. Corolla 3 to 4 lines long, nearly regular, but somewhat oblique, the tube either quite entire or at length very shortly slit open on the upper side, the lobes short, obovate-oblong, and spreading, but the limb apparently more campanulate than in the preceding species, and a white spot at the base of the lower lobes, said to give it a bilabiate look (*Oldfield*). Anthers glabrous, the 2 lower ones tipped each with a rigid bristle, surrounded by a tuft of small ones. Capsule obliquely obovoid, often gibbous, sometimes scarcely 3 lines long and almost as broad, sometimes 5 to 6 lines long and not 3 lines broad. Seeds very numerous and small, ovoid, smooth.—*Lobelia scapigera*, R. Br. Prod. 565; *Enchysia scapigera*, Presl, Prod. Mon. Lob. 41; A. DC. Prod. vii. 409.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *F. Mueller*, *Drummond*, 5th Coll. n. 68; Tone and Gordon rivers, *Oldfield*; Swan River, *Drummond*, 1st Coll. n. 418; eastward to Esperance Bay and Middle Island, *Maxwell*.

Var. *pusilla*, R. Br. Very small, with single scapes of $\frac{1}{2}$ to 1 in.—Goose Island Bay, *R. Brown*; east of King George's Sound, *Maxwell*.

Lobelia ophioccephala, De Vr. in Pl. Preiss. i. 397, from the borders of Lake Keicermula, *Preiss*, n. 1446, and *Lobelia monanthus*, De Vr. l. c. 398, from Swan River, *Preiss*, n. 1432, which I have not seen, are probably this species.

6. **I. fluviatilis**, *F. Muell. Herb.* A small, prostrate or creeping perennial, usually pubescent, with the habit of some species of *Pratia*. Leaves in the typical form oblong or almost linear, or the lower ones ovate or obovate, mostly 3 to 4 lines long, slightly toothed, shortly petiolate or the upper ones sessile. Flowers on axillary pedicels, varying from the length of the leaves to twice as long. Calyx-tube narrow, turbinate, pubescent; lobes short, lanceolate. Corolla usually 5 to 6 lines long, but sometimes much smaller, the entire tube longer than the calyx-lobes, the lobes oblong, almost acute, nearly equal but oblique, and the 2 upper separated rather lower down. Anthers glabrous, the 2 lower ones tipped each with one rigid broad bristle and several smaller ones. Capsule about 2 lines long. Seeds ovoid, smooth.—*Lobelia fluviatilis*, R. Br. Prod. 563; A. DC. Prod. vii. 366.

N. S. Wales. Banks of the Nepean, *R. Brown*; near Bathurst, *Vicary*; near Goulburn, *F. Mueller*.







Var. *inundata*. Leaves mostly ovate or orbicular.—*Lobelia inundata*, R. Br. Prod. 563; A. DC. Prod. vii. 367.

N. S. Wales. Port Jackson to the Blue Mountains, R. Brown, A. Cunningham, and others; Paramatta, *Woolfs* (with very small flowers).

Victoria. Inundated places and borders of lagoons on the Yarra and Goulburn rivers, Ovens river, and to the western frontier, F. Mueller and others; Grampians, *Wilhelmi*, F. Mueller.

Enchysia Lessonii, Presl, Prod. Mon. Lob. 40; A. DC. Prod. vii. 409; *E. Baueri* and *E. Gaudichaudii*, Presl, l. c. 41; *Laurentia Baueri* and *L. Gaudichaudii*, A. DC. l. c. vii. 411, all known only from Presl's diagnoses, belong probably to this species, which connects the genus with true *Lobelias*, and has the habit of *L. pratensis* and *Pratia puberula*, but the insertion of the stamens near the orifice of the corolla-tube induces its reference to *Isotoma*.

4. WAHLENBERGIA, Schrad.

Calyx 5- or rarely 4-lobed or in abnormal flowers 6- or 7-lobed. Corolla regular, campanulate or more or less tubular at the base, with as many valvate lobes as calyx-lobes. Stamens free. Ovary 3- to 5-celled or rarely 2-celled. Style with as many stigmatic lobes as ovary-cells. Capsule opening at the top loculicidally within the calyx-teeth, in as many valves as cells.—Herbs. Leaves alternate or very rarely opposite or whorled. Peduncles terminal or in the upper axils, often forming loose, terminal, dichotomous, leafy panicles. Flowers usually blue.

A considerable genus, dispersed over various parts of the world, most abundant in Southern Africa. The two Australian species are both in New Zealand, and one appears to be the same as a common one in tropical Asia.

Stems leafy, simple or branched. Leaves sometimes crowded but not

rosulate 1. *W. gracilis*.

Leaves all radical or crowded on very short, tufted stems. Scapes leafless 2. *W. saxicola*.

1. **W. gracilis**, A. DC. Monogr. Camp. 142; Prod. vii. 433. An exceedingly variable plant in stature, duration, and size of the flowers, glabrous or more or less clothed in the lower part with rigid hairs, sometimes a slender, simple or branched annual of 6 in. to 1½ ft., sometimes forming a perennial, almost woody rootstock, with numerous ascending or erect, simple or slightly branched stems, leafy chiefly in the lower part. Lower leaves from obovate, and under ½ in. long, to lanceolate or almost linear, and 1 in. long or even much more when very narrow, the upper ones fewer and narrower, and in slender varieties, nearly all linear-subulate or filiform. Flowers solitary, on long, terminal peduncles, without bracts, usually 5-merous, sometimes (said to be the early flowers) 4-merous, very rarely 6-merous or even 7-merous. Calyx-tube from ovoid to narrow-obconical, the lobes from broadly lanceolate and shorter than the tube to linear-subulate and twice as long. Corolla campanulate, more or less expanded, varying in size from ¼ in. to above 1 in. diameter. Filaments shortly dilated at the base. Ovary 3-celled or very rarely 2-celled.—Hook. f. Fl. Tasm. i. 239; *Campanula gracilis*, Forst.; Br. Prod. 561; Sm. Exot. Bot. t. 45; Bot. Mag. t. 691; *C. vineaeflora*, Vent. Jard. Malm. t. 12; *C. littoralis*, Labill. Pl. Nov. Holl. i. 49. t. 70; *C. capillaris*, Lodd. Bot. Cab. t. 1406; *C. quadrifida*, R. Br. Prod. 561; *Wahlenbergia quadrifida*, A. DC. Mon. Camp. 144; Prod. vii. 433; *W. Sieberi*,

A. DC. ll. cc.; *W. multicaulis*, Benth. in Hueg. Enum. 75; A. DC. Prod. vii. 433; *W. simplicicaulis*, De Vr. in Pl. Preiss. ii. 241.

N. Australia. Victoria river, *F. Mueller*; Port Essington, *Armstrong*.

Queensland, *R. Brown*; Albany Island, *F. Mueller*; Cape York, *B. Daemel*; Port Curtis, *M'Gillivray*; Rockingham Bay, *Dallachy*; Rockhampton, *Thozet*; Moreton Bay, *F. Mueller*; in the interior, *Mitchell*; plains of the Condamine, *Leichhardt*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown* and others; in the interior to the Lachlan and Darling and to the Barrier Range, *Victorian and other Expeditions*; New England, *C. Stuart*; Hastings and Clarence rivers, *Beckler*.

Victoria. Common from the coast to the mountains, *F. Mueller* and others; in the Haidinger Range to an elevation of 5000 to 6000 ft., *F. Mueller*; Wimmera, *Dallachy*.

Tasmania, *R. Brown*; abundant in dry places throughout the island, *J. D. Hooker*.

S. Australia. Around St. Vincent's and Spencer's Gulf, *F. Mueller* and others; in the interior to Lake Gillies, *Burkitt*; Cooper's Creek, *Howitt's Expedition*.

W. Australia. King George's Sound, *R. Brown* and others, and thence to Swan River, *Drummond*, n. 151, 153, 161, 185, 421, 425, *Preiss*, n. 1883, 1884, 1886, 1887; Murchison river, *Oldfield*; eastward to Cape Arid, *Maxwell*.

The species is also in New Zealand, in the Eastern Archipelago, and extends over the East Indies if *W. agrestis*, A. DC.; Hook. and Thoms. in Journ. Linn. Soc. ii. 21, be, as is probable, the same species. Several distinct varieties have been enumerated by various authors, but they run so variously one into another that they would require to be differently defined for every separate collection of specimens.

Campanula Preissii, De Vr. in Pl. Preiss. ii. 241, from Preiss's specimens, n. 1892, and *Wahlenbergia Preissii*, De Vr. l. c., from the same collector's n. 1890 are unknown to me. If real *Wahlenbergias* they probably both belong to *W. gracilis*, which is the only species I have met with among the numerous *W. Australian* specimens I have seen.

2. ***W. saxicola***, A. DC. *Monogr. Camp.* 144; *Prod.* vii. 433. A glabrous perennial, with a tufted or shortly creeping stock, rarely lengthening out into leafy branches of 1 in. or rather more. Leaves radical and rosulate or crowded on the short stems, petiolate, from obovate or spatulate to almost linear, entire or obscurely crenate, $\frac{1}{2}$ to 1 in. long in the Tasmanian specimens, longer in some New Zealand ones. Scapes leafless, 1-flowered, 2 to 6 in. high. Flowers 5-merous, sometimes like those of *W. gracilis*, but usually more oblique and 1 or 2 of the anthers tipped with a small point. Ovary 2- or 3-celled.—Hook. f. *Fl. Tasm.* i. 239. t. 71; *Handb. N. Zeal.* Fl. 170; *Campanula saxicola*, R. Br. *Prod.* 561; *Wahlenbergia albomarginata*, Hook. Ic. Pl. t. 818; *Streleskia montana*, Hook. f. in Hook. Lond. Journ. vi. 267.

Tasmania. Summit of Mount Wellington (Table Mountain), *R. Brown*, *Gunn*. Also in New Zealand. Mr. Archer writes to me that the Table Mountain of R. Brown (frequently quoted in the former volumes of this Flora) is the one now known by the name of Mount Wellington. I learn from Dr. Hooker that it was still frequently called Table Mountain when he was in the island.

ORDER LXVI. ERICACEÆ.

Calyx more or less deeply divided into 4 or 5 teeth or lobes, the tube adnate to the ovary or quite free, sometimes exceedingly short. Corolla inferior or superior, the tube ovoid globular elongated or campanulate, the lobes spreading, valvate or imbricate in the bud, or (in a very few species not Australian) the petals distinct. Stamens twice as many or rarely of the same

number as the corolla-lobes, inserted within the corolla but free from it. Anthers 2-celled, opening at the top by 2 separate pores or oblong slits or rarely by 2 slits extending their whole length. Hypogynous disk very small or none. Ovary having usually as many cells as lobes of the corolla, rarely (in genera not Australian) apparently twice as many or reduced to 3 or 2, with 1 or several ovules in each cell, the placentas attached to the axis. Fruit either capsular or succulent and indehiscent. Seeds very small, with a fleshy albumen, the embryo straight, often small.—Shrubs, sometimes very low creeping and almost herbaceous, more frequently erect and bushy or growing up into small trees, very rarely, in species not Australian, true herbs. Leaves entire or toothed, undivided, usually alternate, penninerved or 3-nerved. Flowers either axillary and solitary, or in short clusters or heads, or forming terminal racemes corymbs clusters or heads.

This large Order is widely spread over the whole world, especially in the temperate and colder regions, but not uncommon also in hilly districts within the tropics. In Australia, however, it is very much restricted both in area and in numbers, being only known in Tasmania and in the mountains of Victoria and New England. The three Australian genera belong to three of the great suborders (or, according to some, distinct Orders) into which *Ericaceæ* have been divided. One, *Wittsteinia*, is endemic; another, *Pernettya*, extends to New Zealand and South America; the third, *Gaultheria*, has a wide range over the hilly regions of Asia and America.

TRIBE I. *Vacciniææ*.—Ovary inferior. Fruit succulent, indehiscent.

Anther-cells opening to the base in longitudinal slits 1. WITTSTEINIA.

TRIBE II. *Arbutææ*.—Ovary superior. Fruit succulent, indehiscent.

Anthers with 2 awns to each cell, rarely none. Berry smooth 2. PERNETTYA.

TRIBE III. *Andromedææ*.—Ovary superior. Fruit a capsule, opening loculicidally.

Calyx more or less enlarged after flowering, often succulent and berry-like enclosing the fruit 3. GAULTHERIA.

TRIBE I. VACCINIEÆ. Ovary inferior. Fruit succulent, indehiscent.

1. WITTSTEINIA, F. Muell.

Calyx-tube adnate; lobes 5. Corolla campanulate; lobes 5, short, spreading, valvate or slightly induplicate in the bud. Stamens inserted at the base of the corolla; anthers versatile, the cells opening to the base in longitudinal slits. Ovary inferior, 2- or 3-celled, with several ovules in each cell. Fruit pulpy, crowned by the persistent calyx-lobes, the dissepiments obliterated. Seeds several, slightly flattened. Embryo minute, near the base of the albumen.—Prostrate or creeping shrub. Leaves coarsely toothed. Flowers axillary, solitary.

The genus consists of a single species, endemic in Australia and exceptional in the tribe and almost so in the whole Order in the dehiscence of the anthers, the embryo is also much smaller than in the majority of the genera.

1. *W. vacciniacea*, F. Muell. *Fragm.* ii. 136, iii. 166; *Pl. Vict.* ii. t. 51. Stems prostrate or creeping, with ascending branches of 6 in. to 1 fl., usually slightly pubescent. Leaves scattered or approximate in clusters of 2 or 3, obovate-oblong, obtuse, coarsely toothed, contracted into a short petiole, rather thick, penniveined, glabrous, pale or glaucous underneath, mostly

about 1 in. long or rather more. Flowers yellowish-green or reddish, pendulous, solitary in the axils on glabrous peduncles of 2 to 3 lines. Bracts 2 or 3, scattered, small and narrow. Calyx-lobes lanceolate, obtuse, nearly $1\frac{1}{2}$ lines long, slightly imbricate in the bud. Corolla about 4 lines long. Stamens falling off with the corolla, but almost free from it; filaments as long as the corolla-tube; anthers ovate. Ovary 2-celled in the flowers I examined, 3-celled in those analysed by F. Mueller. Style rather thick, with a thick peltate stigma. Berry globular, greenish yellow or reddish. Seeds orbicular.

Victoria. Crevices of rocks and rocky summits of the Baw-Baw mountains, more rarely in the Albert Range and sources of the Yarra, at an elevation of 3500 to 5000 ft., *F. Mueller*.

TRIBE 2. ARBUTEÆ. Ovary superior. Fruit succulent, indehiscent.

2. *PERNETTYA*, Gaudich.

Calyx free, deeply divided into 5 segments. Corolla urceolate or campanulate; lobes 5, short, spreading, imbricate in the bud. Stamens 10, hypogynous, included in the corolla-tube; anther-cells opening in a large terminal or oblique foramen, each with 2 erect awns (4 to the anther) or rarely without any. Ovary 5-celled, with several ovules in each cell; style inserted in a central depression; stigma capitate or peltate. Fruit a globular indehiscent berry. Seeds small, embryo cylindrical in the centre of the albumen.—Low creeping or bushy shrubs. Leaves small, penniveined, entire or toothed. Flowers axillary, solitary.

The genus extends over the Andes of America from Mexico to Cape Horn, and thence to the Antarctic Islands and New Zealand, the only Australian species being endemic in Tasmania. As a genus, *Pernettya* differs slightly from the northern *Arbutus*, in the anthers with the awns when present 2 to each cell and erect as in *Gaultheria*, not solitary and reflexed as in *Arbutus*, and in the smooth not granular ovary and fruit.

1. ***P. Tasmanica***, *Hook. f. in Hook. Lond. Journ.* vi. 268; *Fl. Tasm.* i. 242. *t.* 73 B. A small creeping shrub, the branches ascending to very few inches, usually glabrous. Leaves very shortly petiolate, oblong-elliptical or almost lanceolate, rather obtuse, coriaceous, entire or obscurely toothed, 2 to 3 lines long. Flowers solitary in the upper axils, on pedicels of 1 to 2 lines, with several bracts at the base or below the middle. Calyx-segments ovate, about 1 line long. Corolla urceolate-campanulate, nearly 2 lines long. Filaments dilated at the base; anther-cells without awns, the foramen extending nearly down to the base. Hypogynous disk short, undulate. Berry yellow red or cream-coloured, pulpy, 3 to 4 lines diameter.

Tasmania. On all the mountains, especially on a granite soil, forming large green cushions, *J. D. Hooker*. With much the aspect of *P. empetrifolia*, Gaudich., but with a more creeping habit, this is at once distinguished by the absence of any awns to the anthers.

TRIBE 3. ANDROMEDEÆ. Ovary superior. Fruit a capsule, opening loculicidally.

3. *GAULTHERIA*, Linn.

Calyx free, deeply divided into 5 segments, enlarged under or round the

fruit and then often succulent. Corolla urceolate; lobes 5, short, spreading, imbricate in the bud. Stamens 10, hypogynous, included in the corolla-tube; anther-cells opening in a terminal or oblique foramen, each with 2 erect awns (1 to the anther). Ovary 5-celled, with several ovules in each cell; style inserted in a central depression; stigma capitate or peltate. Fruit a globular capsule, opening loculicidally in 5 valves, more or less enclosed in the enlarged usually succulent and berry-like calyx. Seeds small; embryo cylindrical in the centre of the albumen.—Erect and bushy or low and creeping shrubs, often hispid with rigid hairs. Leaves pinnaveined, entire or toothed. Flowers in simple terminal or axillary racemes, each one pedicellate within a bract and 2 bracteoles, or solitary in the axils of the stem-leaves.

The genus is chiefly spread over the mountain regions of America from the Oregon to Cape Horn and eastward to Brazil, represented by a few species in Japan and the mountains of tropical Asia, and to the south extending through the Antarctic Islands and New Zealand to eastern extratropical Australia. Of the three Australian species, two are endemic, the third is a common New Zealand one. The genus is chiefly distinguished by its berry-like calyx, the real fruit inside being capsular, but some southern species with the calyx occasionally scarcely enlarged and the capsule more or less succulent, closely connect the genus with *Pernettya*.

Erect shrub of 2 to 5 ft. Leaves oblong or lanceolate. Racemes terminal or axillary with membranous bracts 1. *G. hispida*.
Diffuse or bushy shrub not above 1 ft. Leaves oblong or lanceolate.
Flowers axillary, forming a terminal leafy raceme 2. *G. lanceolata*.
Small prostrate or depressed shrub. Leaves orbicular or ovate. Flowers all axillary 3. *G. antiqua*.

1. ***G. hispida***, *R. Br. Prodr.* 559. An erect spreading shrub, usually 2 to 3 ft. high but attaining 4 or 5 ft., the branches and often also the midrib of the leaves hispid with rigid spreading or appressed hairs. Leaves shortly petiolate, lanceolate to elliptical-oblong, with obtuse or callous serratures, 1 to 2 in. long or rarely more. Flowers in dense racemes, terminal or in the upper axils, shorter than the leaves. Bracts membranous, broad, concave, 1 to 1½ lines diameter; bracteoles smaller. Calyx-segments at the time of flowering acute and not above 1 line long but soon enlarging. Corolla broadly urceolate, about 2 lines long. Fruiting-calyx depressed globular, succulent and berry-like, snow-white, surrounding or enclosing the fruit.—DC. Prodr. vii. 594; Hook. f. Fl. Tasm. i. 241; A. Rich. Sert. Astrolab. t. 30.

N. S. Wales. Summits of snowy mountains at the head of Bellenger river, at an elevation of 4000 ft., *C. Moore*.

Victoria. Ranges of the Australian Alps at an elevation of 4000 to 6000 ft., rarely descending to 3000 ft., *F. Mueller*.

Tasmania. Derwent river and Mount Wellington, *R. Brown*: common on the mountains throughout the island at an elevation of 2000 to 4000 ft., *J. D. Hooker*.

2. ***G. lanceolata***, *Hook. f. in Hook. Lond. Journ.* vi. 267; *Fl. Tasm.* i. 241. t. 72. Stems, from a thick, woody base, diffuse or erect and bushy, not above 1 ft. high, more or less hispid with short stiff hairs or bristles. Leaves elliptical-oblong or lanceolate, rather acute, with callous serratures, ½ to 1 in. long. Flowers on pedicels of 1 to 2 lines, solitary in the upper axils, but forming a short, terminal, leafy raceme, the floral leaves usually

much smaller than the others. Bracts several, at the base of the pedicels, the uppermost about 1 line long. Calyx at the time of flowering fully half as long as the corolla. Corolla urceolate, about 2 lines long. Stigma petalate, 5-lobed. Fruiting-calyx berry-like, red, more or less enclosing the fruit.

Tasmania. Summits of Ben Lomond, the Western mountains, etc., *Gunn*. In the figure above quoted, by a mistake of the artist, the anthers are represented as having only 1 instead of 2 awns to each cell.

3. **G. antipoda**, *Forst.*; *DC. Prod.* vii. 594. The Tasmanian form of this very variable species is a small, depressed or prostrate shrub, with the branches, and sometimes also the margins of the leaves, hispid with stiff hairs or bristles. Leaves shortly petiolate, broadly ovate or orbicular, crenulate, 3 to 4 lines long. Flowers solitary, on very short, axillary peduncles, which, however, bear several small bracts. Fruit enclosed in a berry-like calyx, much larger than that of *G. hispida*. Hook. f. *Fl. Tasm.* i. 241. t. 73A; *G. depressa*, Hook. f. in Hook. *Lond. Journ.* vi. 267.

Tasmania. Summits of Mount Olympus, Ben Lomond, Mount Tapeyrouse, etc., *Gunn* and others. The species is common in New Zealand, where it is usually a bushy shrub attaining 4 or 5 ft., as figured by A. Rich. *Fl. N. Zel.* t. 28; but on the higher mountains it is there also sometimes reduced to the small, prostrate state in which it is found in Tasmania.

ORDER LXVII. EPACRIDEÆ.

Calyx of 5 rarely 4 distinct sepals, much imbricate in the bud. Corolla regular, with a cylindrical, urceolate or campanulate tube, and 5 rarely 4 lobes, valvate or variously imbricate in the bud, more or less spreading or rarely cohering in a calyptra, or rarely the whole corolla separating into distinct petals. Stamens as many as corolla-lobes or rarely fewer, hypogynous, and free or more or less adnate to (inserted in) the corolla-tube; anthers versatile or rarely adnate, 1-celled (more or less perfectly 2-celled before opening), opening by a single longitudinal slit in 2 valves, leaving no longitudinal dissepiment or only a thin and slightly prominent one. Hypogynous disk annular or cup-shaped, entire, 5-lobed or consisting of 5 distinct scales, rarely deficient. Ovary superior, with 5 or sometimes fewer, rarely 6 to 10 cells; ovules solitary in each cell and pendulous, or several in each cell, the placenta proceeding from the axis immediately under the attachment of the style. Style simple and undivided, terminal in the uniovulate genera, inserted in a central, tubular depression of the ovary so as to be lateral (with reference to the carpels) or almost basal in the pluriovulate genera; stigma terminal, small, capitate or petalate, and sometimes slightly lobed. Fruit indehiscent, and more or less drupaceous in the uniovulate genera, capsular, and loculicidally dehiscent in the pluriovulate ones. Seeds with a thin, rarely almost crustaceous testa; embryo straight, much shorter than the albumen, terete or nearly so, the radicle next the hilum.—Shrubs or rarely trees. Leaves alternate or very rarely opposite, often crowded or imbricate, rigid, entire or scarcely denticulate, with several longitudinal, simple or forked nerves, sometimes prominent underneath, sometimes very fine and

numerous or very obscure. Fl. wvs axillary or terminal, either solitary and terminating peduncles more or less covered with imbricately seale-like or leaf-like bracts, or in spikes or racemes, each flower between 2 bracteoles in the axil of a subtending bract, the common peduncle usually ending in a small rudimentary flower with its subtending bract, the peduncles or spikes solitary or rarely several in a terminal panicle. Sepals usually finely marked with parallel or diverging veins. Corolla white or of various shades of red, rarely blue, green or yellowish.

The Order is almost confined to Australia, New Caledonia, New Zealand, and the Antarctic Islands, a few species spread over the islands of the Pacific and the Indian Archipelago, and a single one representing it in the mountains of extratropical South America; the extra Australian species belong to 4 out of the 24 Australian genera, except the South American species, and 1 or 2 from New Caledonia, which have been referred to genera not quite identical with Australian ones.

The division of the Order into two suborders, tribes or comprehensive genera, is remarkably clear and definite, and has been admitted by all: but the characters hitherto found available for their subdivision into lower groups have in some cases proved inconstant, and in others have been pronounced as of little value from *à priori* considerations; and many genera proposed by Brown, and generally adopted, have, nevertheless, been rejected, first by Poiret and Sprengel, and recently again by F. Mueller. The species, however, are so numerous that subdivision, whether into genera or into sections, is necessary, and the following appear to me to be the characters the most available for the purpose. The foliage, in many respects uniform and characteristic of the Order, divides nevertheless the tribe *Epacree* into three natural groups. The indorescence and bracts, although, perhaps, less diversified in principle than was formerly supposed, offer still some modifications, which are constant in some genera, and very general in others. The calyx is remarkably uniform in the whole Order. The corolla, its shape, the aestivation of its lobes, and the arrangement of certain tufts of hairs it often bears (which probably take some part in aid of fertilization), has been made much use of by Brown and others for the distinction of genera, but is now almost entirely rejected by F. Mueller. It appears to me, however, to afford often, most useful characters, although not always quite absolute. The filaments adnate to the corolla or free, flat or terete, the anthers connate or free, exserted or included, entire or 2-lobed, may be in some cases generic differences, but in others are specific only; the reduced number of stamens only serves to separate the monotypic genus *Oligarrhena*. The hypogynous disk, its presence or absence, and integrity or separation into scales, has completely broken down as a generic character, and may not always be constant in species. The ovary is nearly uniform in each of the great tribes, varying in *Stypheliee* only in the number of cells, the differences being more frequently specific than generic, and in *Epacree* presenting only one marked modification of the placentas, which, however, neatly separates *Richea* and *Dracophyllum* from the rest of the tribe. The fruit is uniform in *Epacree*; in *Stypheliee* the greater or lesser degree of succulence in the mesocarp, and of consolidation in the endocarp, is occasionally of considerable generic value, notwithstanding its vagueness. In the structure of the seeds I have not detected any differences of any importance. Their number and position either corresponds with that of the ovules, or, if altered in the course of growth, the consequent modifications do not appear to give any generic indications.

TRIBE I. *Stypheliee*.—*Ovules solitary in each cell of the ovary, pendulous from the summit of the cavity. Style terminal. Fruit indehiscent, usually drupaceous.*

Anthers exserted. (Corolla-lobes revolute so as completely to expose the erect summits of the filaments and the anthers.)

Anthers free. Filaments glabrous.

Corolla-tube long or slender. Fruit a 5-celled drupe 1. STYPHELIA.

Corolla-tube very short. Fruit 5-pyrened and berry-like 6. PENTACHONDRA.

Anthers connate in a cone round the style. Filaments glabrous 2. COLEANTHERA.

Anthers connivent or connate, enveloped with the filaments in a dense wool 3. ASTROLOMA.

Anthers wholly or partially enclosed in the corolla-tube or in the erect base of the lobes, or rarely recurved with the lobes.

Corolla-tube (usually long) with 5 tufts of hairs or hairy scales or a dense ring of hairs inside below the middle. Filaments usually flat

3. *ASTROLOMA*.

5. *MELICHRUS*.

Corolla-tube short, with 5 glandular scales inside below the middle
Corolla-tube conical in the upper portion, with minute, erect lobes. Anthers 2-lobed

4. *CONOSTEPHIUM*.

Corolla-tube without scales or hairy tufts below the middle, the lobes spreading at least at the end. Filaments terete or nearly so.

Corolla-lobes more or less imbricate in the bud, glabrous, the throat closed with reflexed hairs or scales

9. *BRACHYLOMA*.

Corolla-lobes broadly induplicate in the bud, glabrous

10. *NEEDHAMIA*.

Corolla-lobes valvate in the bud, glabrous.

Corolla-tube cylindrical or urceolate.

Drupe with a several-celled, hard nucleus, the mesocarp very pulpy. Flowers usually solitary, with imbricate bracts

8. *CYATHODES*.

Drupe with a several-celled nucleus, the mesocarp moderately pulpy. Flowers in spikes or racemes, the bracts and bracteoles distinct

11. *LISSANTHE*.

Drupe with 10 more or less separable pyrenes. Flowers in spikes or clusters, the bracts and bracteoles distinct

7. *TROCHOCARPA*.

Drupe berry-like, very pulpy, with 5 distinct pyrenes. Flowers solitary or in spikes, the bracts and bracteoles distinct

6. *PENTACHONDRA*.

Corolla-tube short and campanulate. Flowers very small.

Stamens and corolla-lobes 4 or 5. Ovary 1- or 2-celled

14. *MONOTOCA*.

Stamens 2. Corolla-lobes 4. Ovary 2-celled

15. *OLIGARRHENA*.

Corolla-lobes valvate, with a reflexed beard at the tip, and reflexed hairs along the throat

13. *ACROTRICHE*.

Corolla-lobes valvate in the bud, bearded inside.

Drupe with several-celled, hard nucleus, the mesocarp very pulpy. Flowers usually solitary, with imbricate bracts

8. *CYATHODES*.

Drupe with a several-celled, rarely 1-celled, hard or thin nucleus, the mesocarp moderately pulpy or dry. Flowers in spikes or solitary, the bracts and bracteoles distinct

12. *LEUCOPOGON*.

Drupe with 10 (or fewer by abortion) separable pyrenes. Flowers in spikes or clusters, the bracts and bracteoles distinct

7. *TROCHOCARPA*.

TRIBE II. Epacreeæ.—*Ovules several in each cell of the ovary. Style inserted in a central tubular depression, so as to be lateral or basal. Capsule loculicidally dehiscent.*

Leaves petiolate, sessile or stem-clasping, not sheathing. Placentas sessile or nearly so.

Bracts imbricate on the calyx, passing into the sepals.

Corolla-lobes quincuncially imbricate

16. *EPACRIS*.

Corolla-lobes contorted-imbricate

17. *LYSINEMA*.

Bracts or bracteoles at a distance from or scarcely reaching the calyx, and very different from the sepals.

Stamens adnate to (inserted in) the corolla-tube

18. *ARCHERIA*.

Stamens hypogynous, free

19. *PRIONOTIS*.

Leaves with an adnate, sheathing base, which falls off with the leaf, leaving the denuded branches smooth and scarless. Placentas sessile or nearly so.

Stamens adnate to (inserted in) the corolla-tube

20. *COSMELIA*.

Stamens hypogynous, free. Corolla scarcely exceeding the calyx.

- Corolla-tube very short; lobes very spreading, glabrous, more or less imbricate 21. SPRENGELIA.
 Corolla-tube cylindrical; lobes erect, recurved or revolute, bearded inside, valvate in the bud 22. ANDERSONIA.
 Leaves with an adnate, sheathing base, which falls off with the leaf, leaving annular scars on the denuded branches. Placentas depending from an ascending, recurved stipes.
 Corolla circumsciss near the base, calyptriform, the lobes not opening 23. RICHEA.
 Corolla not circumsciss, the lobes spreading 24. DRACOPHYLLUM.

TRIBE I. STYPHELIEÆ.—Ovules solitary in each cell of the ovary, and pendulous from the summit of the cavity. Style terminal. Fruit indehiscent, usually drupaceous.

1. STYPHELIA, Sm.

(*Soleniscia*, DC.)

Corolla-tube elongated, cylindrical or slightly ventricose, hairy inside at the throat, and with 5 tufts of hairs, sometimes confluent in a ring below the middle or rarely glabrous; lobes linear, bearded inside, much revolute, exposing the stamens. Filaments free from the throat, filiform, glabrous; anthers exserted, free, linear, 1-celled, attached about the middle. Hypogynous scales distinct or united in a cup-shaped disk. Ovary 5-celled, with 1 ovule in each cell. Style filiform, longer than the corolla-tube; stigma small. Fruit a drupe, with a dry or slightly pulpy mesocarp, and a hard, bony endocarp, with 5 cells and seeds or fewer by abortion.—Leaves sessile or scarcely petiolate. Flowers axillary, solitary, with the rudiment of a second or very rarely 2 or 3, on a very short peduncle. Bracts several, 1 or 2 of the uppermost more or less enlarged, and embracing the base of the calyx as well as the still larger bracteoles. Calyx usually coloured.

The genus is limited to Australia. The very much revolute corolla-lobes and exserted stamens distinguish it from all its allies except *Coleanthera*, which is readily known by the small flowers and connate anthers.

Styphelia was originally intended by Smith to comprehend the few drupaceous Epacrideæ then known. R. Brown, in adding a vast number of species, divided it into several groups which he proposed as distinct genera, considering the original genus as a tribe, but he stated at the same time that others might prefer to treat them as sections of one comprehensive genus. Sprengel attempted to consolidate some of these genera, but, by rearranging the species upon technical characters taken from books, without actual observation, he created nothing but confusion. De Candolle, Endlicher, Lindley, Sonder, and others, who have more or less studied the Order, have adopted the views of Brown, the excellence of whose groups has, with few minor exceptions, been fully confirmed by the additions since made. F. Mueller, after a careful study of a large number of species, which has supplied us with numerous valuable observations (Fragm. iv. and vi.), returns to the idea of one large genus divided into sections, justifying the change on the observation that some of the characters relied upon for the distinction of genera have failed, that there are frequently intermediate species connecting the several groups, and that *Styphelia*, if retained in its original comprehensive sense, is not, after all, so numerous in species as *Acacia* and others, which no one attempts to break up. Fully admitting the correctness of these statements, it may, however, be observed that, in the whole Vegetable Kingdom, there are few, if any, large genera which are not more or less connected with others by intermediate species; that in such genera as *Acacia* or *Eugenia*, for instance, throughout the whole of the 500 odd species known there is the greatest uniformity in the structure of the flowers; whilst in *Styphelieæ* there is considerable diversity, as well in the corolla as in the stamens and pistil; and that, if in the

characters hitherto given some have failed, others have been brought forward in their support. F. Mueller, indeed, does not propose to remodel Brown's groups, but only to reduce their value in the systematic scale, of which the principal result is an altered nomenclature. It appears to me, therefore, to be a question more of convenience than of observation of fact, whether we should describe *Styphelia* as one tribe with several genera, or as one genus with several subgenera or sections. Had the genus remained hitherto undivided I might, perhaps, with F. Mueller, have adopted the latter view; but Brown's genera have now been so long and so generally recognized by botanists and horticulturists, that it appears to me that the proposed change, without really advancing the cause of science, would rather lead to practical confusion, as it has already added more than half a hundred superfluous names to the overloaded synonymy of the tribe.

SECT. I. **Eustyphelia**.—*Corolla-tube with 5 dense tufts of hairs below the middle, sometimes confluent in a ring.*

Diffuse or prostrate. Hypogynous scales quite distinct, lanceolate . . . 1. *S. adscendens*.

Erect shrubs. Hypogynous scales more or less cohering in a ring or cup, at least at the base.

Branches pubescent-hirsute. Leaves concave.

Leaves long-lanceolate, tapering into a fine point, 1 to 2 in.

long, very concave. Corolla-tube about 1 in. 2. *S. longifolia*.

Leaves ovate to lanceolate, slightly concave, rarely exceeding 1

in. Corolla-tube about $\frac{1}{2}$ in. 3. *S. lata*.

Branches glabrous or with a minute scarcely visible down.

Leaves obovate-oblong to oblong-lanceolate, shortly tapering into a rigid point.

Leaves concave or nearly flat. Sepals obtuse 4. *S. triflora*.

Leaves flat or slightly convex. Sepals acute. Corolla green 5. *S. viridis*.

Leaves short, obovate or oblong, obtuse, flat or slightly convex.

Western species 6. *S. Hainesii*.

Leaves oblong-linear, abruptly mucronate, with recurved or re-

volute margins 7. *S. tubiflora*.

SECT. II. **Soleniscia**.—*Corolla-tube slender; quite glabrous inside except a few hairs in the throat.*

Leaves ovate to lanceolate, flat or concave, about $\frac{1}{2}$ in. long. Corolla-

tube 1 in. long. Disk annular 8. *S. tenuiflora*.

Leaves ovate or broadly cordate, flat or concave, 3 to 5 lines long.

Sepals acuminate. Corolla-tube 3 lines long. Disk annular 9. *S. melaleucoides*.

Leaves ovate, flat or concave, about 3 lines long. Sepals obtuse.

Corolla-tube $1\frac{1}{2}$ lines long. Disk annular 10. *S. pusilliflora*.

Leaves broad, concave, recurved at the end, not 2 lines long. Corolla-

tube about 2 lines. Hypogynous scales free, lanceolate, acuminate 11. *S. leucopogon*.

SECT. I. **EUSTYPHELIA**. Corolla-tube with 5 dense tufts of hairs below the middle between the stamens, sometimes confluent in a ring.

1. **S. adscendens**, R. Br. *Prod.* 537. A much-branched diffuse and rigid shrub, forming broad matted patches, the branches prostrate or shortly ascending, often pubescent. Leaves rather crowded, lanceolate, 6 to 9 lines long, with a fine pungent point, the margins minutely scabrous-ciliate. Flowers solitary in the axils, almost sessile, surrounded by about 4 bracts gradually enlarged, embracing the calyx, and passing into the bracteoles which are about 2 lines long, obtuse. Sepals oblong, obtuse, about 4 lines long, slightly coloured at the tips. Corolla yellowish, more or less green at the tip, the tube about 6 lines long, with 5 dense tufts of hairs almost confluent inside below the middle and densely hairy from thence to the throat;



lobes linear-lanceolate, acute, densely bearded, scarcely shorter than the tube. Drupe ovoid, 5-ribbed, about as long as the calyx.—DC. Prod. vii. 735; Hook. f. Fl. Tasm. i. 243; F. Muell. Fragm. vi. 36.

Victoria. Stony places in the Grampians, *F. Mueller*; Wimmera, *Dallachy*.

Tasmania. Port Dalrymple, *R. Brown*; dry pastures, heathis, etc., near Hobarton, Circular Head, etc., common, *J. D. Hooker*.

2. ***S. longifolia***, *R. Br. Prod.* 537. An erect shrub, with virgate softly pubescent branches. Leaves long-lanceolate, gradually tapering into a fine rigid point, concave, 1 to 2 in. long or the lower ones still longer. Flowers green, solitary in the axils, nearly sessile. Bracteoles about 3 lines long, rather obtuse. Sepals 7 to 9 lines long, acute. Corolla-tube nearly 1 in. long, with 5 dense confluent tufts of hairs above the base, less hairy in the upper part; lobes linear, bearded inside. Hypogynous scales broad, more or less cohering at the base, free and spreading at the top. Drupe ovoid, 5-angled, 3 or 4 lines long.—DC. Prod. vii. 735; Bot. Reg. t. 24; Lodd. Bot. Cab. t. 1583.

N. S. Wales. Port Jackson, *R. Brown*, *Sieber*, n. 77, and others.

3. ***S. læta***, *R. Br. Prod.* 537. An erect shrub, with spreading softly pubescent branches. Leaves in the typical form ovate ovate-lanceolate or broadly oblong, shortly tapering into a rigid point, under 1 in. long, flat or concave. Flowers pale red², very shortly pedicellate, solitary in the axils. Bracteoles obtuse, about 2 lines long. Sepals about 5 lines long, rather acute. Corolla-tube $\frac{1}{2}$ to $\frac{3}{4}$ in. long, with 5 dense tufts of hairs inside above the base, and hairy towards the throat; lobes long, revolute, bearded inside. Hypogynous scales cohering in a scarcely lobed cup, but readily separating.—DC. Prod. vii. 735; *S. latifolia*, *Sieb. Pl. Exs.*

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 80, and others.

Var. *latifolia*. Leaves short, very broadly ovate and very concave. *S. latifolia*, *R. Br. Prod.* 537; DC. Prod. vii. 735.—Hawkesbury river, *R. Brown*.

Var. *angustifolia*, Benth. in Hueg. Enum. 70. Leaves narrow-lanceolate, $\frac{1}{2}$ to nearly 1 in. long.—*S. angustifolia*, DC. Prod. vii. 735; *S. læta*, Reichenb. Icon. Exot. t. 99. Port Jackson and Blue Mountains, *Sieber*, n. 79, and others.

4. ***S. triflora***, *Andr. Bot. Rep. t.* 72. A tall shrub, quite glabrous or the branches very minutely pubescent. Leaves from obovate-oblong to oblong-lanceolate, very shortly tapering into a rigid point, flat or more or less concave, rarely exceeding 1 in., and the broad ones at the base of the shoots often very short. Flowers pale pink and yellow, very shortly-pedicellate, solitary or very rarely 2 (or 3²) together in the lower axils and often appearing clustered at the base of the shoot, especially when some of the floral leaves are small or abortive. Bracteoles obtuse, about 2 lines long. Sepals obtuse or almost acute, about 5 lines long. Corolla varying in size, but the tube usually about $\frac{3}{4}$ in., with 5 dense tufts of hairs inside above the base. Hypogynous scales more or less cohering in a truncate or shortly lobed cup.—*R. Br. Prod.* 537; DC. Prod. vii. 735; Bot. Mag. t. 1297; Lodd. Bot. Cab. t. 426; *S. glaucescens*, *Sieb. Pl. Exs.*

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 75, 86, and

others. The name, as observed by Loddiges, is not well chosen, for the flowers are almost always solitary, and I have never seen them as figured by Andrews, probably from an over-luxuriant garden specimen. The species is very closely allied both to *S. teta* and *S. viridis*, differing from the former in the glabrous branches and clustered inflorescence, from the latter in the colour of the flowers as well as in the leaves rather concave than convex.

5. *S. viridis*, *Andr. Bot. Rep. t.* 312. An erect shrub, with spreading branches, quite glabrous or with a minute scarcely perceptible down. Leaves oblong lanceolate or obovate-oblong, abruptly narrowed into a short rigid point, flat or slightly convex, under 1 in. long. Flowers green, solitary in the axils, nearly sessile. Bracteoles broad and obtuse, under 2 lines long. Sepals almost acute, about $\frac{1}{2}$ in. Corolla-tube nearly $\frac{3}{4}$ in. long in the normal form, with 5 dense tufts of hairs inside above the base. Hypogynous scales broad, obtuse, free or slightly cohering.—DC. Prod. vii. 735; *S. viridiflora*, R. Br. Prod. 537; Sweet, Fl. Austral. t. 50.

Queensland. Moreton island, *F. Mueller*.

N. S. Wales. Port Jackson, *R. Brown, Sieber, n.* 78, and others; Hunter's River, *A. Cunningham*; Miall Brush, *Leichhardt*; Darling Downs, *F. Law*.

Var. ? *breviflora*. Leaves narrower. Sepals more obtuse, about 4 lines long. Corolla-tube about $\frac{1}{2}$ in. long. To this belong the specimens from Queensland and from the northern parts of N. S. Wales.

6. *S. Hainesii*, *F. Muell. Fragm. iv.* 96. t. 28. A glabrous bushy shrub of about 2 ft. Leaves obovate-oblong, obtuse or rarely with a minute point, flat or slightly convex, 3 to 5 lines long. Flowers solitary in the axils, nearly sessile. Bracteoles very obtuse and broad, about $\frac{1}{2}$ line long. Sepals obtuse, about 2 lines. Corolla-tube about $\frac{3}{4}$ in. long with 5 dense tufts of hairs inside above the base. Hypogynous scales united in a short truncate cup.

W. Australia. Limestone cliffs and sand-drift hummocks, Eyre's Relief, and along the coast to Cape Paisley, *Macnell*. Although the foliage and habit are different from those of the Eastern species, it quite agrees with them in the hairy tufts of the corolla-tube, as well as in the general shape and structure of the flowers.

7. *S. tubiflora*, *Sm. Bot. Nov. Holl. 45. t.* 14. An erect glabrous much-branched shrub. Leaves oblong-linear, sometimes slightly cuneate, abruptly mucronate, with revolute margins, mostly about $\frac{1}{2}$ in. long. Flowers red, solitary in the axils, nearly sessile or very shortly pedicellate. Bracteoles scarcely $1\frac{1}{2}$ lines long, very broad, mucronate-acute. Sepals nearly 4 lines long, mucronate-acute. Corolla-tube nearly 1 in. long, the revolute lobes long and narrow. Hypogynous disk cup-shaped, truncate, scarcely lobed.—R. Br. Prod. 537; DC. Prod. vii. 735; Lodd. Bot. Cab. t. 1938; Paxt. Mag. xii. 29, with a fig.; Maund. Botanist, t. 142.

N. S. Wales. Port Jackson, *R. Brown, Sieber, n.* 76, and many others.

SECT. II. SOLENISCIA.—Corolla-tube very slender, quite glabrous inside.

8. *S. tenuiflora* (*misprinted tenuifolia*), *Lindl. Swan Riv. App.* 25. An erect bushy rigid glabrous shrub of 2 to 3 ft. Leaves nearly sessile, from broadly ovate to lanceolate, mucronate-acuminate, flat or concave, mostly about $\frac{1}{2}$ in. long. Flowers solitary in the axils, sessile. Bracteoles scarcely 1 line long, very broad and obtuse, the outer bracts all minute or the uppermost scarcely enlarged. Sepals obtuse, smooth, about $2\frac{1}{2}$ lines long. Co-



Chonfeld Lith.

DeGrucy & Leigh imp.

Styphelia Hainesii F. M.

rolla-tube very slender, fully 1 in. long, without either tufts of hairs or scales inside; the lobes short and thinly hairy inside, but linear and much revolute as in other *Styphelia*. Hypogynous disk short, 5-toothed. Drupe ovoid, nearly twice as long as the calyx.—*Soleniscia elegans*, DC. Prod. vii. 738; Deless. Ic. Sel. v. 21; *Styphelia elegans*, Sond. in Pl. Preiss. i. 296.

W. Australia. From King George's Sound to Swan River, *Drummond*, 1st Coll. also n. 15, 481, *Preiss*, n. 468, 469, *Harvey*, *Maxwell*.

9. ***S. melaleucoides***, *F. Muell. Fragm.* iv. 97. vi. 30. A shrub of 2 to 3 ft., glabrous or the branchlets minutely hoary-pubescent. Leaves in the typical form broadly ovate cordate or almost orbicular, mucronate-acute, rigid, flat or concave, 3 to 5 lines long. Flowers solitary or 2 together on very short peduncles with a terminal rudiment, the bracts very small; bracteoles scarcely $\frac{1}{2}$ line long, very broad and obtuse. Sepals 1 to $1\frac{1}{4}$ line long, very obtuse. Corolla-tube slender, about 3 lines long, slightly hairy in the throat, otherwise glabrous inside and without scales; lobes as long as the tube, closely revolute, bearded inside. Anthers linear. Hypogynous disk short, truncate or sinuate-toothed. Ovary 5-celled, tapering into the slender style.

W. Australia. In the interior from Eagle Hawk Camp, *Maxwell*.

Var. *ovata*, *F. Muell.* Leaves all ovate, not cordate, with a longer rigid point.—*Israelite Bay*, *Maxwell*.

10. ***S. pusilliflora***, *F. Muell. Fragm.* iv. 105. Branchlets minutely pubescent. Leaves ovate, acute, with a fine rigid point, about 3 lines long, shining and rigid like those of *S. melaleucoides*, but rather convex than concave. Flowers solitary or 2 together on a very short peduncle with a terminal rudiment. Bracts very small; bracteoles half as long as the calyx, and sepals $1\frac{1}{2}$ lines long, all acutely acuminate. Corolla-tube scarcely exceeding the calyx, glabrous inside except a few hairs in the throat; lobes revolute, as long as the tube, bearded inside. Anthers oblong-linear. Hypogynous disk truncate or sinuate-toothed. Ovary 5-celled, tapering into the slender style.—*Leucopogon exarthenus*, *F. Muell. Fragm.* i. 178; *Styphelia exarthena*, *F. Muell. Fragm.* vi. 31.

S. Australia. Near Penola in the Tattiarra country, *Wood*, a single small specimen in Herb. *F. Mueller*, evidently allied to *S. melaleucoides*, but readily distinguished by the short corolla-tube and acutely acuminate bracts and sepals.

11. ***S. leucopogon***, *F. Muell. Fragm.* iv. 97. vi. 31. An erect shrub of 1 to 2 ft., the branches rather slender, glabrous or minutely pubescent. Leaves broadly ovate, shortly acuminate, contracted into a short petiole, very concave and almost conduplicate but recurved at the end, not 2 lines long. Flowers shortly pedicellate, with very small bracts, the bracteoles not $\frac{1}{2}$ line long. Sepals a little more than 1 line long, rather narrow but obtuse, smooth. Corolla-tube slender and cylindrical, but scarcely exceeding 2 lines, quite glabrous inside; lobes nearly as long, bearded inside, much revolute. Hypogynous scales free, lanceolate, acuminate. Anthers rather small; stamens otherwise, as well as the ovary and style, entirely those of the genus.—*Soleniscia pulchella*, *Stschegl.* in Bull. Mosc. 1859, i. 3; *Leucopogon exsertus*, *F. Muell. Fragm.* iii. 143.

W. Australia. *Drummond, 5th Coll. n. 327*; Phillips Range and Eyre's Relief, *Marxwell*.

2. COLEANTHERA, Stschegl.

(*Michica, F. Muell.*)

Sepals small. Corolla-tube short, bearded inside at the throat, otherwise glabrous; lobes long, linear, valvate in the bud, more or less bearded inside, much revolute exposing the stamens. Filaments inserted in the throat; anthers exserted, linear, 1-celled, attached by the middle, cohering above the middle in a cone round the style. Hypogynous disk none or very obscure. Ovary 5-celled, with 1 ovule in each cell. Style filiform, longer than the corolla-tube; stigma small. Fruit a drupe with a dry or scarcely pulpy mesocarp and a hard endocarp, with 5 cells and seeds, or fewer by abortion.—Leaves flat or concave. Flowers small, 2 or 3 together on a short axillary peduncle, or solitary with a minute rudiment of another. Bracts few, small, the subtending one slightly enlarged and embracing the base of the calyx as well as the larger bracteoles.

The genus is limited to S.W. Australia. It is nearly allied to *Styphelia*, with which F. Muell. has recently united it (*Fragm. vi. 80*), but the small flowers give it the aspect of *Leucopogon*, and the exserted connate anthers readily distinguish it from both.

Leaves strongly veined underneath, ovate or lanceolate usually hairy . . . 1. *C. cœlophylla*.
Leaves smooth, the veins very fine and scarcely prominent, usually glabrous.

Leaves ovate or orbicular. Corolla-lobes bearded to the end . . . 2. *C. myrtoides*.

Leaves linear or linear-lanceolate. Corolla-lobes bearded at the base only . . . 3. *C. virgata*.

1. ***C. cœlophylla*, Benth.** An erect bushy shrub of 1 to 2 ft., more or less hirsute with soft hairs on the branches and margins and bases of the leaves. Leaves ovate to lanceolate, obtuse or with a small callous point, concave, strongly striate underneath, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Flowers solitary or rarely 2 together on a very short peduncle, all axillary. Bracts very small; bracteoles broad, obtuse, not $\frac{1}{2}$ line long. Sepals about 1 line long, obtuse, ciliate. Corolla-tube shorter than the calyx, the lobes longer than the tube and bearded as in *C. myrtoides*; stamens and style the same as in that species.—*Leucopogon cœlophyllus*, A. Cunn.; DC. Prod. vii. 753.

W. Australia. Eastward of King George's Sound, *Baxter*. The strongly ribbed foliage gives this plant a very different aspect from that of *C. myrtoides*, independently of the hairs.

2. ***C. myrtoides*, Stschegl. in Bull. Mosc. 1859, i. 4.** An erect bushy shrub, attaining 4 to 5 ft., glabrous or the branches slightly pubescent. Leaves very shortly petiolate, often clustered towards the end of each annual shoot, ovate or almost orbicular, obtuse or with a short callous point, concave or nearly flat, the flabellate veins often forked but fine and scarcely conspicuous, 3 to 4 lines long. Peduncles very short, 1- to 3-flowered, those at the base of the shoots often without any subtending leaf. Bracts and bracteoles very small. Sepals ovate, obtuse, about 1 line long. Corolla-tube shorter than the calyx; lobes longer than the tube, bearded the whole length. Filaments filiform, glabrous, shorter than the lobes; anthers linear, 2 lines



G. & J. 1821.

F. Mueller, direxit.

De Cruchy & Leigh imp.

Michia symphyanthera. *H. M.*

long. Stigma enclosed within the anther-cone or shortly protruding beyond it.—*Michiea symphyntera*, F. Muell. Fragm. iv. 96. t. 27; *Styphelia Michiei*, F. Muell. Fragm. vi. 80.

W. Australia. *Drummond*, 4th Coll. n. 154, 5th Coll. n. 302; dry rocky ridges, Stirling Range, Salt River, Gardner Range, *Maxwell*.

3. **C. virgata**, *Steuegl.* in *Bull. Mosc.* 1859, i. 5. A shrub with elongated virgate or flexuose branches, usually loosely pubescent. Leaves shortly petiolate, linear or linear-lanceolate, obtuse, concave, glabrous or loosely pubescent, about $\frac{1}{2}$ in. long on the main branches, shorter on the branchlets. Peduncles very short. Bracts and bracteoles of *C. myrtilloides*, and flowers also the same, except that the corolla-lobes are bearded at the base only, and as well as the anthers are rather longer than in that species.

W. Australia, *Drummond*, 5th Coll. n. 303.

3. ASTROLOMA, R. Br.

(*Ventenatia*, *Cac.*, *Stemianthera*, *R. Br.*, *Stomarrhena*, *LC.*, *Pentastaphurus*, *Schlecht.*, *Mesotriche*, *Steuegl.*)

Corolla-tube elongated, cylindrical or slightly ventricose, either with 5 tufts of hairs or densely hairy scales inside above the base or rarely without either; lobes linear or lanceolate, bearded inside or rarely glabrous, valvate, erect at the base round the anthers, spreading or recurved at the top only (more spreading in *A. stomarrhena*). Filaments short, often much flattened, inserted in the throat; anthers oblong or linear, 1-celled, attached above the middle or almost at the top. Hypogynous disk cup-shaped or annular, truncate or obscurely lobed. Ovary 5-celled, with 1 ovule in each cell; style filiform, as long as or longer than the corolla-tube; stigma capitate, often large and hairy, rarely 5-lobed. Fruit a drupe, with a dry or slightly pulpy mesocarp and a hard bony endocarp, with 5 cells and seeds, or fewer by abortion.—Leaves sessile or scarcely petiolate. Flowers solitary in the axils on very short pedicels or almost sessile, surrounded by several bracts of which from 2 to 4 of the innermost are gradually enlarged and as well as the still larger bracteoles embrace the base of the calyx.

The genus is limited to Australia. It is readily distinguished from *Styphelia* by the anthers more or less concealed within the corolla-tube or the erect base of its lobes, and from the larger flowered species of *Leucopogon* by the inflorescence, by the tufts of hairs in the tube, or by the dilated filaments, and in the great majority of species by all three characters.

SECT. I. Stomarrhena.—*Corolla-tubes with 5 tufts of hairs inside below the middle, alternating with the stamens and sometimes confluent in a ring.*

Filaments terete or scarcely flattened. Leaves convolute or concave, entire or minutely scabrous-denticulate.

Plant hairy. Stamens protruding beyond the somewhat revolute lobes in a dense woolly mass 1. *A. stomarrhena*.

Plant glabrous or the branches slightly pubescent. Stamens enclosed in the erect base of the lobes.

Leaves narrow-lanceolate. Sepals acute, 7 to 8 lines long 2. *A. macrocalyx*.

Leaves narrow-lanceolate. Sepals almost obtuse, about 4 lines long 3. *A. xerophyllum*.

Filaments much flattened.

Leaves concave, entire or scarcely scabrous-denticulate.

Leaves spreading, ovate or lanceolate, 1 to 1½ lines long . . . 4. *A. microphyllum*.

Leaves erect, linear or linear-lanceolate, 4 to 6 lines long . . . 5. *A. prostratum*.

Leaves erect, ovate or broadly lanceolate, above ½ in. long . . . 6. *A. tectum*.

Leaves concave flat or slightly convex, denticulate-ciliate.

Leaves ovate to broadly lanceolate, concave. Shrub erect . . . 7. *A. Candolleanum*.

Leaves broadly lanceolate, flat. Shrub erect . . . 8. *A. microdonta*.

Leaves lanceolate or oblanceolate, concave. Shrub low or diffuse . . . 9. *A. pallidum*.

Leaves cuneate obovate or oblanceolate, nearly flat. Shrub prostrate . . . 10. *A. compactum*.

Leaves lanceolate linear or almost subulate, tapering into a pungent point, the margins sometimes recurved . . . 11. *A. humifusum*.

Leaves narrow with recurved or revolute margins, entire or scarcely scabrous-denticulate.

Leaves very spreading, lanceolate or linear-lanceolate, with rigid or pungent points . . . 12. *A. divaricatum*.

Leaves linear, with short points not pungent, usually hoary or glaucous underneath.

Calyx fully 3 lines long. Plant usually softly pubescent . . . 13. *A. Drummondii*.

Calyx 2 to 2½ lines long. Plant usually glabrous or minutely pubescent . . . 14. *A. microcalyx*.

SECT. II. **Pentataphrus**.—Corolla-tube with 5 deflexed fringed scales inside below the middle alternating with the stamens. Filaments much flattened. Leaves linear with revolute margins. Bracts and sepals large.

Calyx 3 to 4 lines long. Corolla-tube exserted. Anthers acuminate . . . 15. *A. Baxteri*.

Calyx 6 to 8 lines long. Corolla-tube scarcely longer. Anthers very obtuse . . . 16. *A. conostephioides*.

SECT. III. **Stenanthera**.—Corolla-tube without tufts of hairs or scales inside below the middle. Filaments much flattened. Leaves linear, with revolute margins.

Calyx 3 to 3½ lines long. Bracts small. Corolla-tube slender, ¾ in., lobes bearded at the base . . . 17. *A. longiflorum*.

Calyx 5 to 6 lines long. Bracts large. Corolla-tube not much exserted, lobes bearded at the end . . . 18. *A. pinifolium*.

SECT. I. **Stomarrhena**. Corolla-tube with 5 tufts of hairs inside below the middle, alternating with the stamens and sometimes confluent in a dense ring.

1. ***A. stomarrhena***, *Sond. in Pl. Preiss.* i. 301. Stems usually several from a thick trunk, erect, simple or branched, ½ to 1 ft. high, the whole plant more or less hirsute with long spreading hairs. Leaves sessile, erect, lanceolate, concave, tapering into a pungent point, the margins quite entire, ½ to 1 in. long, strongly striate. Flowers scarcely exceeding the leaves, nearly sessile. Upper bracts above 1 line; bracteoles about 2 lines long. Sepals 4 to 5 lines long, mucronate-acute, with the same spreading hairs as the rest of the plant. Corolla-tube about 6 lines long, with 5 tufts of hairs inside above the base and very hairy above them; lobes linear, acute, more revolute than in the other species but less so than in *Styphelin* and erect at the base, glabrous inside but hairy outside towards the top. Filaments not flattened, more than half as long as the lobes, very hairy, the anthers attached

near the top and connivent or slightly cohering round the style in a dense woolly mass exerted from the corolla-tube. Hypogynous disk truncate. Style filiform, longer than the corolla-tube; stigma distinctly 5-lobed.—*Styphelia lusionena* or *Astroloma lusionena*, F. Muell. Fragm. vi. 40.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 475, *Preiss*, n. 410; Hamden, *Clarke*.

2. **A. macrocalyx**, *Sond. in Pl. Preiss.* i. 301. A glabrous erect bushy shrub of 1 to 3 ft. Leaves crowded, narrow-lanceolate, tapering into a pungent point, entire, concave or almost convolute, strongly striate, 1 to 1½ in. long. Flowers scarcely exceeding the leaves. Bracteoles shortly mucronate, 2 to 3 lines long. Sepals acute, 7 to 8 lines long. Corolla about as long as the calyx, the tube with 5 tufts of hairs inside above the base and hairy at the throat; lobes bearded, acuminate. Filaments short, scarcely flattened; anthers attached above the middle, 2-lobed at the top. Hypogynous disk short, truncate. Stigma capitate. Drupe ovoid, much shorter than the calyx.—*Styphelia macrocalyx*, F. Muell. Fragm. vi. 37.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 477, *Oldfield*; near Pine Apple, *Preiss*, n. 413.

3. **A. xerophyllum**, *Sond. in Pl. Preiss.* i. 301. An erect shrub of 2 to 3 ft., the branches often elongated, minutely pubescent. Leaves narrow-lanceolate, tapering into a pungent point, not ciliate, very concave almost convolute, strongly striate, mostly ½ to ¾ in. long. Flowers white (*Oldfield*) scarcely exceeding the leaves or shorter. Bracteoles 1½ to 2 lines long. Sepals about 4 lines, obtuse or scarcely pointed. Corolla-tube broad, ventricose, scarcely or not at all exceeding the calyx, glabrous inside below the middle or with an obscure ring or tufts of few small hairs, very hairy towards the throat; lobes lanceolate, 2 to 2½ lines long, erect and bearded inside at the base, glabrous pointed and spreading at the tip. Filaments very short, not dilated, immersed in the wool of the lobes; anthers attached above the middle. Hypogynous disk truncate. Stigma globular and hairy.—*Stomarrhena xerophylla*, DC. Prod. vii. 738; *Styphelia xerophylla*, F. Muell. Fragm. vi. 38.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 476, *Preiss*, n. 407; Murchison river, *Oldfield*. This species is anomalous in the want or minuteness of the tufts of hairs near the base of the corolla, but the inflorescence (without any rudimentary second flower), the habit, large flower, and other characters, clearly place it in *Astroloma* and not in *Leucopogon*.

4. **A. microphyllum**, *Stschegl. in Bull. Mosc.* 1859, i. 7. Branches apparently spreading or diffuse, with numerous erect or ascending slightly pubescent branchlets. Leaves rather crowded, spreading, ovate lanceolate or lanceolate-linear, minutely pointed, flat, rather striate, 1 to 1½ lines long, entire or minutely scabrous-denticulate. Flowers sessile in the lower axils or from leafless nodes at the base of the shoots. Bracts very small; bracteoles under 1 line long. Sepals smooth, coloured, about 2 lines long. Corolla-tube about 3 lines long, with 5 tufts of hairs forming a dense ring inside above the base, the throat hairy; lobes erect and bearded inside, with autely acuminate spreading tips. Filaments short, flat; anthers long,

attached near the top. Hypogynous disk truncate. Style filiform, with a small capitate stigma.

W. Australia. *Drummond*, 5th Coll. n. 298. *A. juniperina* or *Styphelia pentagona*, F. Muell. *Fragm.* vi. 36, from gravelly places, Phillips and Fitzgerald Ranges, *Maxwell*, appears to me to be a form of the same species, with the leaves narrower than in *Drummond's* specimens.

5. **A. prostratum**, *R. Br. Prod.* 538. A low diffuse or prostrate shrub, with short ascending or erect branches, minutely pubescent. Leaves linear or linear-lanceolate, tapering into a short fine almost pungent point, flat or slightly concave, entire or minutely scabrous-denticulate, under $\frac{1}{2}$ in. long. Flowers red, nearly sessile. Bracteoles under 1 line long. Sepals 2 to nearly 3 lines, almost obtuse. Corolla-tube about 4 lines long, with 5 tufts of hairs inside near the base, the throat slightly hairy; lobes about 2 lines long, bearded inside, very acute. Filaments short and broad; anthers attached near the top, very obtuse or emarginate. Hypogynous disk truncate. Stigma capitate.—*DC. Prod.* vii. 738.

W. Australia. *Lucky Bay*, *R. Brown*, and probably the same locality, *Baxter*; *South-west Bay*, *Maxwell*.

6. **A. tectum**, *R. Br. Prod.* 538. The specimens usually show a thick, woody trunk or stock, with numerous thick, erect, simple or branched stems from 6 in. to nearly 1 ft. high. Leaves from almost ovate to broadly lanceolate, acute, with a short pungent point, minutely and obtusely denticulate, concave or nearly flat, usually erect and almost imbricate, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers scarcely exceeding the leaves. Bracteoles nearly 2 lines. Sepals 4 to 5 lines long. Corolla-tube 6 to 7 lines long, with 5 dense tufts of hairs inside above the base, and villous above them; lobes bearded, acuminate. Filaments short, flattened; anthers attached above the middle. Hypogynous disk, short, truncate.—*DC. Prod.* vii. 739; *Styphelia lecta*, *Spreng. Syst.* i. 657; *Astroloma latifolium*, *Sond. in Pl. Preiss.* i. 302; *Styphelia platyphylla*, *F. Muell. Fragm.* vi. 37.

W. Australia. *Drummond*, 4th Coll. n. 149; *Lucky Bay*, *R. Brown*; and probably the same locality, *Baxter*; *Mount Wuljemp*, *Preiss.* n. 411; *Stirling Range*, *F. Muell.*

7. **A. Candolleum**, *Sond. in Pl. Preiss.* i. 302. An erect, bushy shrub of 1 to 2 ft., glabrous or the branches minutely pubescent. Leaves from broadly ovate-cordate to ovate or broadly lanceolate, tapering into a pungent point, more prominently denticulate-ciliate than in other species or rarely almost entire, concave or almost conduplicate, erect and imbricate or the end spreading or recurved, under $\frac{1}{2}$ in. long. Flowers red, solitary in the axils. Peduncles sometimes very short, sometimes 1 line long, with minute bracts, the 2 uppermost under the calyx $\frac{1}{2}$ line long; bracteoles 1 to $1\frac{1}{2}$ lines. Sepals about 3 lines long, coloured, obtuse, and minutely mucronate. Corolla-tube 4 to 5 lines long, the 5 tufts of hairs inside about or below the middle forming a dense ring; lobes 2 to $2\frac{1}{2}$ lines long, bearded, with very acute, glabrous tips. Filaments short, flat. Anthers attached near the top. Stigma large. Hypogynous disk truncate.—*Stomarrhena serratifolia*, *DC. Prod.* vii. 738; *Deless. Ic. Sel.* v. t. 22 (incorrect as to the corolla); *Styphelia Candolleana*, *F. Muell. Fragm.* vi. 38.

W. Australia. *Drummond*, 1st Coll. n. 471, 3rd Coll. n. 192 or 194; Mount Bakewell, *Preiss*, n. 466; Middle Mount Barren, *Maxwell*.

8. **A. microdonta**, *F. Muell. Herb.* An erect shrub of 2 to 3 ft., with virgate branches, glabrous or minutely pubescent. Leaves lanceolate, tapering into a pungent point, denticulate-ciliate, flat, mostly about $\frac{1}{2}$ in. long or rather more. Flowers red, nearly sessile. Bracts small; bracteoles scarcely above 1 line long. Sepals about 3 lines long, deeply coloured, obtuse, striate. Corolla-tube scarcely exceeding the calyx, with 5 dense tufts of hairs inside below the middle, the throat slightly hairy; lobes as long as the tube, densely bearded inside, less acuminate than in other species. Filaments short, flat; anthers attached above the middle. Hypogynous disk truncate. Stigma globular.

W. Australia. Murchison river, *Oldfield*, *Drummond*, 6th Coll. n. 121. Near *A. pallidum*, but more erect, the leaves larger and flatter, the corolla-tube shorter, and the lobes less mucronate.

9. **A. pallidum**, *R. Br. Prod.* 538. Diffuse or prostrate when growing in sand, forming a tufted shrub of 1 ft. when in chinks of rocks, the numerous branchlets shortly pubescent. Leaves crowded, sessile or nearly so, lanceolate or oblanceolate, tapering into a pungent point, denticulate-ciliate, concave, rarely above $\frac{1}{2}$ in. long. Flowers nearly sessile, usually white or flesh-coloured (sometimes dark red?). Bracteoles 1 to $1\frac{1}{4}$ lines long. Sepals 3 to 4 lines long, obtuse or with a minute point. Corolla-tube nearly twice as long as the calyx, with 5 dense tufts of hairs inside near the base, and the throat hairy; lobes lanceolate, about 3 lines long, bearded inside, with acute, glabrous points. Filaments short, flat; anthers attached near the top. Hypogynous disk truncate. Stigma large. Fruit ovoid or almost globular, about 3 lines diameter, often ripening only a single seed.—*DC. Prod.* vii. 739; *Sond.* in *Pl. Preiss.* i. 300; *Leucopogon blepharoides*, *DC. Prod.* vii. 753; *Styphelia pallida*, *Spreng. Syst.* i. 658; *F. Muell. Fragm.* vi. 37.

W. Australia. King George's Sound, *R. Brown*; Swan and Canning rivers, *Preiss*, n. 421; Swan and Blackwood rivers, *Cape Naturaliste*, and King George's Sound, *Oldfield*; Lucky Bay, *Maxwell*; Stirling Range, *F. Mueller*.

10. **A. compactum**, *R. Br. Prod.* 538. Diffuse or prostrate, and much branched, glabrous or the branches slightly pubescent. Leaves oblanceolate cuneate or almost obovate, mucronate-acute, denticulate-ciliate, tapering into a more or less distinct petiole, flat or slightly concave or recurved and convex at the end, sometimes undulate, 3 to 5 lines long. Flowers red, axillary or from leafless nodes at the base of the shoots. Pedicels from very short to nearly 2 lines long. Bracteoles 1 line long or rather more. Sepals about 3 lines long, minutely mucronate. Corolla-tube longer than the calyx and sometimes nearly twice as long, with 5 tufts of hairs inside, forming a ring about or a little below the middle; lobes densely bearded at the base, with glabrous, mucronate-acute tips. Filaments short, flat; anthers attached near the top. Hypogynous disk short, truncate. Stigma large.—*DC. Prod.* vii. 739; *Sond.* in *Pl. Preiss.* i. 300; *Styphelia compacta*, *Spreng. Syst.* i. 657; *F. Muell. Fragm.* vi. 38; *Astroloma canci-*

folium, Sond. in Pl. Preiss. i. 300; *Styphelia cuneifolia*, F. Muell. Fragm. vi. 37.

W. Australia. Lucky Bay, *R. Brown*; King George's Sound and adjoining districts, *Barter*, *Oldfield*, and others, and thence to Swan River, *Drummond*, 1st Coll. n. 473, 5th Coll. n. 300, *Preiss*, n. 421, 422, 423, and Murchison river, *Oldfield*; eastward to Salt and Phillips rivers, *Maxwell*.

11. **A. humifusum**, *R. Br. Prod.* 538. Diffuse or prostrate and much branched, glabrous or the branches pubescent. Leaves narrow-lanceolate to linear or almost subulate, tapering into a pungent point, minutely denticulate-ciliate, flat or very slightly concave or convex, under $\frac{1}{2}$ in. long. Flowers red, axillary, on very short pedicels. Bracteoles mucronate, above 1 line long. Sepals mucronate, $2\frac{1}{2}$ to 3 lines long. Corolla-tube not twice as long as the calyx, with 5 tufts of hairs inside, forming a ring a little below the middle, and more or less hairy at the throat; lobes about 3 lines long, bearded inside, with glabrous, mucronate-acute tips. Filaments short, flat; anthers attached near the top. Hypogynous disk truncate. Stigma large, globular.—*DC. Prod.* vii. 738; *Hook. f. Fl. Tasm.* i. 244; *Bot. Mag.* t. 1439; *Lodd. Bot. Cab.* t. 1554; *Ventenalia humifusa*, *Cav. Ic.* iv. 28. t. 348; *Styphelia humifusa*, *Pers. Syn.* i. 174; *F. Muell. Fragm.* vi. 37; *Astroloma pallidum*, *Sond. in Linnæa*, xxvi. 246, not of *R. Br.*

N. S. Wales. Port Jackson, *R. Brown*, *Sieber*, n. 65, and others; near Mount Aiton, *A. Cunningham?* (not in flower).

Victoria. Near Melbourne, *Adamson*; Wilson's Promontory, *F. Mueller*; near Skipton, *Whan*.

Tasmania. Derwent river, *R. Brown*; abundant on sandy and stony heaths, *J. D. Hooker*.

S. Australia. Rivoli Bay, Flinders and Mount Lofty Ranges, Torrens river, Kangaroo Island, *F. Mueller*; Port Lincoln, *Wilhelmi*.

W. Australia. King George's Sound, *R. Brown*, or to the eastward, *Barter*.

A. denticulatum, *R. Br. Prod.* 538; *DC. Prod.* vii. 739. *Styphelia denticulata*, *Spreng. Syst.* i. 658, from Memory Cove, *R. Brown*, Port Lincoln, *Wilhelmi*, etc., differs slightly from the common *A. humifusum* in its broad leaves, but many of the Tasmanian specimens have them almost, if not quite as broad.

12. **A. divaricatum**, *Sond. in Pl. Preiss.* i. 299. A straggling, divaricately-branched shrub of 1 to 2 ft., the branchlets minutely pubescent. Leaves lanceolate or linear-lanceolate, spreading or reflexed, mucronate-acute or tapering into a pungent point, very convex, and usually shining above, the margins revolute and entire, the larger ones above $\frac{1}{2}$ in. but mostly shorter. Flowers (red) solitary in the axils, besides a small rudiment in the upper bract. Bracteoles obtuse, about 1 line long. Sepals mucronate, 3 to 4 lines long. Corolla-tube not much longer than the calyx, with 5 tufts of hairs inside in a ring above the base, and the throat hairy; lobes $2\frac{1}{2}$ lines long, bearded, with very acute, glabrous tips. Filaments short, flat; anthers oblong, attached above the middle. Hypogynous disk truncate. Stigma globular.—*Cyathodes Baxteri*, *DC. Prod.* vii. 741; *Leucopogon epacridis*, *DC. Prod.* vii. 754; *Styphelia epacridis*, *F. Muell. Fragm.* vi. 38; *A. pungens*, *Stechehl. in Bull. Mosc.* 1859. i. 8 (with rather broad leaves); *A. splendens*, *Planch. in Fl. des Serres.* x. 129. t. 1018 (from the figure and description)

W. Australia. Swan River, *Drummond*, 1st Coll. n. 468, 469, 4th Coll. n. 136, 34th Coll. n. 296: gravelly places, York district, *Preiss*, n. 467: clay flats, Blackwood river, and sandstone rocks, Doubtful Island Bay, *Oldfield*; Lucky Bay, *Baxter*: near Cape Riche, *Harvey*; Kalgan Ranges, Brewer Bay, and Cape Arid, *Maxwell*: Stirling Range, *F. Mueller*.

A. marginatum, Sond. in Pl. Preiss. i. 299, described from *Preiss*'s specimens, n. 471, without flowers or fruit, if an *Astroloma* at all, may be this species. The leaves, however, are flatter.

13. **A. Drummondii**, Sond. in Pl. Preiss. i. 299. Stems from a thick, woody trunk, erect or ascending, simple or branched, often virgate, pubescent hirsute or rarely almost glabrous. Leaves linear, tapering into a short point, erect or rarely spreading, convex, with entire, recurved or revolute margins, often hoary underneath, and sometimes pubescent on both sides, rarely above $\frac{1}{2}$ in. long, and mostly shorter. Flowers red, nearly sessile. Bracteoles above 1 line long. Sepals acute or almost obtuse, glabrous or pubescent, about 3 lines long. Corolla-tube 4 to 5 lines long, with 5 dense tufts of hairs inside above the base; lobes about 2 lines long, bearded inside with acutely acuminate, glabrous tips. Filaments short, very flat; anthers obtuse, inserted above the middle.—*Styphelia Drummondii*, F. Muell. Fragm. vi. 37; *Astroloma hirsutum*, Stschegl. in Bull. Mosc. 1859. i. 7.

W. Australia. Between King George's Sound and Swan River, *Harvey*, *Drummond*, 4th Coll. n. 135, 148; Vasse river, *Mrs. Molloy*; Hay river, Esperance Bay, *Maxwell*.

Drummond's 3rd Coll. Suppl. n. 73, in bud only, appears to be this species; n. 72 of the same Coll., in still younger bud, may be either this or *A. microcalyx*.

14. **A. microcalyx**, Sond. in Pl. Preiss. i. 298. A much branched, erect or diffuse shrub of 1 to 2 ft., the branchlets minutely pubescent. Leaves usually spreading, linear or narrow oblong, mucronate-acute or obtuse, minutely denticulate-ciliate or almost entire, convex or with recurved margins, and often glaucous underneath, 3 to 4 lines or rarely $\frac{1}{2}$ in. long. Flowers nearly sessile. Bracteoles under 1 line long. Sepals minutely mucronate, 2 to 2½ lines long, often pubescent. Corolla-tube 4 to 5 lines long, with 5 dense tufts of hairs inside above the base, slightly hairy at the throat; lobes erect, with pointed tips, bearded inside towards the end. Filaments short, flat. Hypogynous disk very short, truncate. Fruit scarcely so long as the calyx.—*Styphelia microcalyx*, F. Muell. Fragm. vi. 37.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 470, *Preiss*, n. 470. Possibly a small-flowered variety of *A. Drummondii*.

A. glaucescens, Sond. in Pl. Preiss. i. 298, from Swan River, *Drummond*, n. 475 in some collections, 478 in others, only known in fruit, appears to me to be the same as *A. microcalyx*. The leaves are obtuse or with a much smaller point than in the common form, but otherwise similar.

SECT. II. PENTAPHRUS.—Corolla-tube with 5 deflexed, fringed scales inside below the middle, alternating with the stamens. Filaments much flattened.

15. **A. Baxteri**, DC. Prod. vii. 739. An erect or diffuse shrub, attaining 2 or 3 ft., the branches pubescent. Leaves linear, mucronate-acute, minutely serrulate-ciliate, convex, with recurved margins, rarely $\frac{1}{2}$ in.

long. Flowers nearly sessile. Bracteoles nearly 2 lines long, and the larger bracts sometimes 1 line. Sepals coloured, 3 to 4 lines long, acute, scarcely striate. Corolla-tube $\frac{1}{2}$ in. long, with 5 ciliate or fringed, reflexed scales inside below the middle alternating with the stamens, otherwise glabrous; lobes linear, erect, glabrous, 3 lines long. Filaments short, dilated upwards, and almost as broad as the anthers; anthers attached above the middle, acuminate. Hypogynous disk short, truncate. Fruit globular, shorter than the calyx.—*Stenanthera squamuligera*, F. Muell. Fragm. iv. 97; *Styphelia Baxteri*, F. Muell. Fragm. vi. 35.

W. Australia. King George's Sound and adjoining districts, *Forster, Baxter, Drummond, Oldfield*, F. Mueller; along the coast to Cape 12 Grand and Cape Arid, *Macleod*; known as, "native Sarsaparilla," *Oldfield*.

16. A. conostephioides, F. Muell. *Herb.* An erect shrub, with spreading, pubescent branches. Leaves sessile, erect or spreading, linear or linear-lanceolate, rigid, tapering into a pungent point, with revolute margins, $\frac{1}{2}$ to $\frac{3}{4}$ in. long or nearly 1 in. when very luxuriant. Flowers sessile. Bracts several, rather large, coloured like the calyx and passing into the bracteoles, which are not much shorter than the sepals, all acute and smooth. Sepals 6 to 8 lines long. Corolla-tube scarcely exceeding the calyx, with 5 ciliate or fringed scales inside above the base as in *A. Baxteri*, and not bearded at the throat. Filaments short, very flat; anthers broad, very obtuse, attached near the top.—*Stenanthera conostephioides*, Sond. in Pl. Preiss. i. 296; *Pentaphragus Behrii*, Schlecht. Linnaea, xx. 618; *Styphelia Scuderi*, F. Muell. Fragm. vi. 36.

Victoria. Grampians, F. Mueller; Murray river, *Dallachy*; Skipton, *Whan*; Portland and Glenelg rivers, *Robertson, Allitt*.

S. Australia. Sandy and stony places near Adelaide, *Behr, Blandowsky*; Mount Lofty, *Whittaker*; Encounter Bay and Kangaroo Island, F. Mueller.

SECT. III. SPENANTHERA.—Corolla-tube without tufts of hairs or fringed scales inside. Filaments much flattened. Leaves linear, with revolute margins.

17. A. longiflorum, Sond. in Pl. Preiss. i. 297. Stems prostrate or diffuse, with numerous shortly ascending branches or rarely more erect and bushy, the branches usually pubescent. Leaves spreading, linear, tapering into a short point, serrulate-ciliate, convex, with recurved margins, sometimes much crowded very narrow and under 3 lines long, sometimes more distant $\frac{1}{2}$ in. long and broader in proportion. Flowers almost sessile. Bracts very small, the upper ones passing into the bracteoles, which are unequal, the innermost about 1 line long, very broad and obtuse. Sepals about 3 lines long or rather more, obtuse, less rigid than in most species. Corolla-tube nearly or quite $\frac{3}{4}$ in. long, glabrous inside; lobes lanceolate, bearded at the base only. Filaments short, very flat; anthers attached above the middle, very obtuse. Disk short. Fruit about as long as the calyx.—*Stenanthera ciliata*, Lindl. Swan Riv. App. 25; *Mesotriche longiflora*, Stschegl. in Bull. Mose. 1859. i. 9; *Astroloma discolor*, Sond. in Pl. Preiss. i. 298; *Mesotriche discolor*, Stschegl. l. c.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 472, 474, *Preiss*, n. 419, 420; Kalgan river, *Oldfield*, *F. Mueller*.

A. foliosum, Sond. in Pl. Preiss. i. 297, very remarkable for its crowded, short, and very narrow leaves, is, however, scarcely a variety, for the two states occur on different branches of the same specimen.

Var. ? *dilatatum*. Leaves slightly dilated above the middle, and abruptly contracted into a pungent point. Calyx pubescent. Corolla, etc., of *A. longistramum*.—*A. dilatatum*, Sond. in Pl. Preiss. i. 298.—Swan River, *Drummond*.

18. **A. pinifolium**, *Benth.* A rigid, much-branched shrub, sometimes small or diffuse, sometimes erect and 2 to 3 ft. high, the branchlets usually pubescent. Leaves crowded, very narrow linear, rigidly pointed, with revolute, scabrous margins, about $\frac{1}{2}$ in. long. Flowers sessile and solitary in each axil, but often crowded at the base of the branchlets. Bracts several, the inner ones embracing the calyx, and passing into the bracteoles, which are 3 to 4 lines long, broad, and obtuse. Sepals 5 to 6 lines long, broad, obtuse, thin, scarcely striate. Corolla about $\frac{3}{4}$ in. long, reddish at the base, passing into yellow with green tips, the tube without any tufts of hairs inside near the base, but slightly hairy above the middle; lobes lanceolate or almost linear, bearded inside towards the end. Filaments short and very flat; anthers attached near the top, very obtuse. Hypogynous disk truncate or shortly lobed. Stigma small. Fruit globular, enclosed within the somewhat enlarged calyx.—*Stenanthera pinifolia*, R. Br. Prod. 538; DC. Prod. vii. 739; Hook. f. Fl. Tasm. i. 244; Bot. Reg. t. 218; *Styphelia pinifolia*, Spreng. Syst. i. 659; *F. Muell. Fragm.* vi. 36.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 70, and others.

Victoria. Mount William, Grampians, up to 5000 ft. elevation, and Lake King in Gipps' Land, *F. Mueller*.

Tasmania. Circular Head, *Guan*; Launceston, *Lawrence*; St. Paul's River, *C. Stuart*.

4. CONOSTEPHIUM, *Benth.*

(*Conostephiopsis*, *Stschegl.*)

Corolla-tube enclosed in or scarcely protruding from the calyx, more or less conical in the upper part, without scales or tufts of hairs inside, but usually hairy towards the throat; lobes very small, acute, valvate in the bud. Filaments very short, inserted at the base of or below the cone of the corolla; anthers included in the cone, elongated, deeply divided into 2 lobes, joined by a short connectivum. Hypogynous disk of 5 distinct scales or none. Ovary 5-celled, with 1 ovule in each cell. Style usually slender, with a small stigma. Fruit a nearly dry drupe, enclosed in the calyx, the endocarp hard, with 5 cells and seeds or fewer by abortion.—Shrubs, with the habit and foliage of some species of *Astroloma*. Flowers solitary in the axils, usually pendulous. Pedicels with several bracts, of which 2 to 6 of the enlarged inner ones pass into the bracteoles, and with them embrace the base of the calyx.

The genus is limited to S.W. Australia. It is allied to *Astroloma*, but readily known by the anthers and by the corolla. The conical portion of the latter represents probably the erect portion of the lobes in *Astroloma*; but whilst in that genus these lobes, though connivent at the base, are always distinct (at least, I have never seen them connate as figured,

probably by a mistake of the artist, in Delessert's plate of *Astroloma Ceadolleanum*), they are in *Conostephium* perfectly concrete, so as to form part of the tube.

Corolla-cone thicker at the base than the cylindrical lower part. Leaves convex or with recurved margins.

Leaves oblong-linear, $\frac{3}{4}$ to 1 in. long. Flowers $\frac{1}{2}$ in. long, on long peduncles. Hypogynous scales 5. Ovary glabrous 1. *C. pendulum*.

Leaves narrow-linear, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers 4 lines, on short peduncles. Disk none. Ovary pubescent at the top 2. *C. minus*.

Leaves ovate obovate or linear-cuneate. Flowers 4 to $4\frac{1}{2}$ lines, on short peduncles. Disk none. Corolla-tube shorter than the cone. Ovary glabrous 3. *C. Roei*.

Corolla cylindrical in the lower half, and gradually tapering at or towards the top.

Leaves obovate-oblong to narrow-oblong, mostly convex, obtuse or mucronate 4. *C. Preissii*.

Leaves ovate-lanceolate to linear-lanceolate, flat or concave, acute 5. *C. pleurifolium*.

1. **C. pendulum**, Benth. in *Hueg. Enum.* 76. An erect, branching, glabrous shrub of $\frac{1}{2}$ to $1\frac{1}{2}$ ft. Leaves linear-oblong, acute or obtuse, with a short, pungent point, convex or with recurved margins, mostly $\frac{3}{4}$ to 1 in. long. Peduncles recurved, 2 to 4 lines long. Bracts numerous, 4 to 6 of the upper ones embracing the calyx besides the bracteoles, which are about 3 lines long. Sepals about 4 lines long, broad, acute or almost obtuse. Corolla about 6 lines long, narrow at the base, very much dilated above the middle, then conical, with minute lobes, hairy inside, especially in the cone and near the base. Stamens inserted below the cone. Hypogynous scales 5, narrow, acuminate, distant from each other. Ovary and style glabrous. Fruit enclosed in the calyx.—DC. Prod. vii. 739 (from the synonym, but the plant figured in Deless. Ic. is *C. minus*); Sond. in Pl. Preiss. i. 303; *Styphelia conostephium*, F. Muell. Fragm. vi. 40.

W. Australia. King George's Sound to Swan River, *Huegel, Harvey, Drummond*, n. 466, *Preiss*, n. 414, *Oldfield*.

2. **C. minus**, Lindl. *Swan Riv. App.* 25. An erect, branching shrub, usually under 1 ft. high. Leaves linear, with a small, callous point, and closely revolute margins, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers about 4 lines long, on peduncles of scarcely more than 1 line, at first erect, but at length usually recurved. Bracts several, but not so numerous as in *C. pendulum*, the bracteoles nearly as long as the calyx. Sepals scarcely 3 lines long, obtuse, broad, thin, shining. Corolla glabrous outside or scarcely pubescent, the lower half narrow, thin, and glabrous, the cone much broader at the base, hairy inside. Stamens inserted at the base of the cone. No hypogynous disk. Ovary ob-ovoid, 5-furrowed, the upper half pubescent. Style glabrous or slightly hairy.—Sond. in Pl. Preiss. i. 303; *Conostephium pendulum*, Deless. Ic. Sel. v. t. 23, not of Benth.; *Conostephiopsis minor*, Stschegl. in Bull. Mosc. 1859, i. 6; *Styphelia Lindleyi*, F. Muell. Fragm. vi. 40.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 467, *Preiss*, n. 408.

3. **C. Roei**, Benth. An erect, branching shrub. Leaves ovate, obovate, oblong or linear-cuneate, obtuse or with a short, callous point, convex, with recurved margins or the short ones flat, mostly 3 to 4 lines long.



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Flowers 4 to 4½ lines long, almost sessile or at length pedicellate and reflexed. Bracteoles nearly as long as the calyx. Sepals scarcely 3 lines long, almost acute. Corolla with the thin, narrow part tapering to the base, and shorter than the broad, thick cone, which is hairy inside towards the top. Filaments inserted at the base of the cone and somewhat flattened; antherlobes acuminate. No hypogynous disk. Ovary glabrous.

W. Australia. In the interior, *J. S. Roe*.

4. **C. Preissii**, *Sond. in Pl. Preiss. i. 304*. An erect, branching shrub, attaining sometimes 4 or 5 ft., but usually lower. Leaves from obovate-oblong and scarcely ½ in., to narrow-oblong and ¾ in. long, obtuse or with a small callous point, flat or the margins slightly recurved. Flowers about 4 lines long, on recurved peduncles of 1 to 3 lines. Bracts numerous; bracteoles nearly as long as the calyx. Sepals about 3 lines long, very broad and obtuse, shining. Corolla with the enclosed part pubescent outside, almost cylindrical, the short exerted portion alone more conical and glabrous, the real tube being very short, all the rest a long cone, of which more than half is cylindrical. Stamens inserted near the base of the corolla, the filaments slightly flattened; anthers long, less lobed than in the other species. Hypogynous disk very minute or none. Ovary oblong, glabrous; style shortly hairy.—*Conostephiopsis Preissii*, *Stschegl. in Bull. Mosc. 1859. i. 6*; *Styphelia Preissii*, *F. Muell. Fragm. vi. 40*.

W. Australia. Swan River, *Fraser, Preiss. n. 416, Drummond, 3rd Coll. n. 183, Harvey*; Murchison river, *Oldfield*.

5. **C. planifolium**, *F. Muell. Fragm. vi. 30*. An erect, branching shrub of 2 or 3 ft. Leaves ovate-lanceolate to lanceolate or oblong-linear, acute or almost pungent, flat or concave, rigid, prominently striate, 3 to 4 lines long. Flowers fully 4 lines long, on recurved peduncles of 1 line or more. Bracts numerous; bracteoles nearly as long as the calyx. Sepals scarcely 3 lines long, obtuse, coloured, pubescent. Corolla cylindrical and pubescent in the lower part, and not narrower than the glabrous cone. Filaments short and flat, inserted at the base of the cone; antherlobes long, terminating in a hooked point. Hypogynous disk none. Ovary oblong, slightly hairy at the top; style hairy.—*Conostephiopsis Drummondii*, *Stschegl. in Bull. Mosc. 1859. i. 6*; *Styphelia conantha*, *F. Muell. Fragm. vi. 30*.

W. Australia, *Drummond, 5th Coll. n. 299*; sand hills between Cape Malcolm and Point Culver, *Maxwell*.

Stschegleev, whose determinations and descriptions of *Epacridææ* are very accurate, appears to have relied too much for the establishment of *Conostephiopsis* and other new genera on modifications of the hypogynous disk, a character very rarely more than specific in *Epacridææ*.

5. MELICHRUS, R. Br.

Corolla-tube short and broad, with 5 densely glandular scales inside alternating with the stamens; lobes longer than the tube, valvate in the bud, bearded or glabrous inside, spreading. Stamens inserted in the tube; filaments exceedingly short; anthers oblong, 1-celled. Hypogynous disk short, truncate. Ovary 5-celled, with 1 ovule in each cell: style very short or

reduced to a small cone; stigma terminal, small. Fruit a drupe, with a dry or slightly pulpy mesocarp and a hard, bony endocarp, with 5 cells and seeds or fewer by abortion.—Leaves sessile, lanceolate. Flowers solitary in the axils, sessile, surrounded by several bracts, of which the 2 innermost are enlarged, and, as well as the still larger bracteoles, embrace the base of the calyx.

The genus is limited to Eastern Australia. It is allied to *Astroloma* and to *Leucopogon*, distinguished from the former by the shape of the corolla, from the latter by its larger flowers and more developed bracts, from both by the glandular scales inside the corolla-tube.

Leaves ciliate, sprinkled with long hairs. Calyx (when open) broadly campanulate. Corolla shorter than the calyx, the tube very short . . . 1. *M. rotatus*.

Leaves without long hairs. Calyx ovoid. Corolla exceeding the calyx, the tube nearly as long as the lobes 2. *M. urceolatus*.

1. *M. rotatus*, *R. Br. Prod.* 539. A low, procumbent shrub, with short, ascending branches. Leaves crowded, sessile, lanceolate, tapering into a long and fine but not pungent point, flat, ciliate with long, soft hairs, and hairy on both sides or at length glabrous and shining above, $\frac{1}{2}$ to $\frac{3}{4}$ or sometimes almost 1 in. long. Bracteoles about 2 lines long. Calyx ovoid in bud, but broadly campanulate when the flower is expanded, softly pubescent, the sepals ovate, acute, ciliate, about 3 lines long. Corolla scarcely so long as the calyx, the tube exceedingly short, with 5 large scales densely covered with prominent glands, alternating with the stamens inside; lobes broadly lanceolate, glabrous except a few long hairs at the tip, expanded into a rotate limb when the flower is open. Hypogynous disk very short, thick, and fleshy.—DC. *Prod.* vii. 740; *Fentenatia procumbens*, Cav. *lc.* iv. 28. t. 349. f. 1 (partly); *Styphelia procumbens*, Pers. *Syn.* i. 174; *Styphelia rotata*, F. Muell. *Fragm.* vi. 38.

Queensland. Sandy Cape, *R. Brown*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, *n.* 64, and others; Newcastle, *Leichhardt*; New England, *C. Stuart*. Cavanilles' figure is a good general representation of the plant, but the flower and the analysis must have been taken from some *Astroloma*.

2. *M. urceolatus*, *R. Br. Prod.* 539. An erect shrub of 2 to 3 ft. or rarely low and diffuse like *M. rotatus*. Leaves crowded or densely imbricate, or especially the floral ones loosely spreading, lanceolate, rigid, tapering into a fine pungent point, glabrous or rarely pubescent, from under $\frac{1}{2}$ in. to nearly 1 in. long. Bracteoles about $1\frac{1}{2}$ lines long. Calyx ovoid, glabrous or pubescent, the sepals rigid, obtuse, nearly 3 lines long, often coloured. Corolla-tube broad, shorter than the calyx, with the same glandular scales inside as in *M. rotatus*; lobes lanceolate, rather longer than the tube and exceeding the calyx, recurved at the end but not rotate, bearded or nearly glabrous inside. Hypogynous disk short, thin, truncate.—DC. *Prod.* vii. 740; *M. medius*, *M. erubescens*, and *M. adpressus*, A. Cunn. in DC. *l. c.*; *Styphelia urceolata*, F. Muell. *Fragm.* vi. 38.

Queensland, *W. Hill*; near Warwick, *Herb. F. Mueller*; ridges on the Burnett river, *F. Mueller*.

N. S. Wales. Newcastle, *R. Brown*; in the interior about Bathurst, Liverpool Plains, etc., *A. Cunningham*; head of the Gwydir, Boyl river, *Leichhardt*; between the

Upper Bogau and Lachlan rivers, *L. Morton*; Mudgee, *Woolfs*; New England, *C. Stuart*; Clarence river, *Beckler*.

Victoria. Forest Creek, Ovens river, Delatite river, *F. Mueller*.

Beckler's and Hill's (single) specimens (*Styphelia Cunninghamii*, F. Muell. Fragm. vi. 39) have large, very crowded, densely imbricated leaves but no flowers, another specimen has the floral leaves equally large but spreading, others are intermediate between them and the common form. Cunningham's four species, all from the neighbourhood of Bathurst, do not appear to me to be distinguishable even as varieties; the *M. adpressus* has not the leaves larger than the others. The colour of the flowers is stated by F. Mueller to be pale yellow; by A. Cunningham and Fraser it is given as white, pale pink or deep red, upon different specimens otherwise exactly alike.

6. PENTACHONDRA, R. Br.

Corolla-tube very short, or cylindrical and exceeding the calyx; lobes valvate in the bud, recurved or revolute, bearded inside. Filaments inserted at the top of the tube, rather long and erect with the anthers exerted, or short with the anthers more or less enclosed in the tube, or recurved with the lobes. Hypogynous disk consisting of scales either entirely distinct or more or less cohering. Ovary 5-celled; style long or short, with a small stigma. Fruit a baccate drupe, the mesocarp very pulpy, with 5 distinct pyrenes or fewer by abortion. — Diffuse or prostrate shrubs. Leaves usually crowded. Flowers (except in *P. verticillata*) solitary or 2 or 3 together at the ends of the branches, each one solitary in the axil of one of the last leaves on a short peduncle. Bracts several, small, the uppermost (above the one subtending the flower) with the rudiment of a second flower; bracteoles close under the calyx.

The genus is limited to the mountains of Tasmania, Victoria, and New Zealand, one Australian species being the same as a New Zealand one, the three others are endemic. It is united by F. Mueller with *Trochocarpa*, but the three genuine species have a different habit and inflorescence; the corolla-lobes are always bearded, and the fruit (which I have myself seen in one species only) is much more berry like, with the pyrenes much more distinct, and five only in number, not ten. The fourth species, of which the fruit is unknown, is anomalous in inflorescence, and may possibly prove to be a *Cyathodes*.

Corolla nearly $\frac{1}{2}$ in. long, the lobes much longer than the tube and revolute, exposing the erect stamens 1. *P. involucrata*.

Corolla not exceeding $\frac{1}{4}$ in., the lobes shorter than the tube, the anthers wholly or partially included.

Flowers solitary, at the ends of the branches or in the last axils.

Leaves ovate or oblong, 1 to 2 lines long 2. *P. pumila*.

Leaves linear or lanceolate, 2 to 3 lines long 3. *P. ericifolia*.

Flowers 2 or 3, in a short, terminal spike. Leaves linear, 2 to 3

lines long, crowded at the end of each year's shoot, with scarious scales between each cluster or false-whorl 4. *P. verticillata*.

1. ***P. involucrata*, R. Br. Prod. 549.** A diffuse or prostrate shrub, with ascending or sometimes erect stems of 6 in. to 1 ft., the branches and sometimes the foliage pubescent or villous. Leaves nearly sessile, elliptical or lanceolate, acute or rather obtuse, flat or slightly concave, the margins softly ciliate, finely but prominently veined underneath or on both sides, $\frac{3}{4}$ to $\frac{1}{2}$ in. or on barren branches $\frac{3}{4}$ in. long. Flowers 1, 2 or 3 together at the ends of the branchlets, each one solitary in one of the last leaves under the terminal bud. Bracts several, very small, the uppermost with a small rudi-

ment, the second subtending the flower. Bracteoles about half as long as the calyx. Sepals 1 line long, obtuse, ciliate. Corolla-tube scarcely exceeding the calyx; lobes about 4 lines long, very spreading or revolute, exposing the erect, glabrous, filiform filaments and wholly exerted anthers. Hypogynous scales distinct or slightly cohering. Ovary pubescent; style long.—DC. Prod. vii. 759; Hook. f. Fl. Tasm. i. 255; *Styphelia involuerata*, Spreng. Syst. i. 655; *Trochocarpa involuerata* or *Decaspora involuerata*, F. Muell. Fragm. vi. 57.

Tasmania. Summit of Mount Wellington, *R. Brown, J. D. Hooker*.

2. **P. pumila**, *R. Br. Prod.* 549. A small diffuse or prostrate shrub, the numerous branchlets ascending to a few inches, usually glabrous. Leaves crowded, ovate or oblong, obtuse or with a callous point, slightly concave, striate, 1 to 2 lines long. Flowers almost sessile, solitary at the ends of the short branchlets. Bracts several, very small, the terminal one with a small rudiment. Bracteoles fully half as long as the calyx. Sepals obtuse, ciliate, about $\frac{3}{4}$ line long. Corolla-tube cylindrical, about 2 lines long, glabrous; lobes short, recurved, bearded inside. Anthers half included in the corolla-tube. Hypogynous scales distinct. Fruit very pulpy, 3 to 4 lines diameter, the pyrenes small and quite separate.—DC. Prod. vii. 759; Hook. f. Fl. Tasm. i. 255; *Epacris pumila*, Forst. Prod. 13; *Styphelia pumila*, Spreng. Syst. i. 656; *Leucopogon vaccinioides*, Sond. in Pl. Preiss. i. 325; *Pentachondra vaccinioides*, Sond. in Linnaea, xxvi. 252; *Trochocarpa pumila* or *Decaspora pumila*, F. Muell. Fragm. vi. 57.

Victoria. Mountains of Manyong, Baw-Baw, Mitta-Mitta, sources of the Yarra, at an elevation of 4500 to 6000 ft., *F. Mueller*.

Tasmania. Derwent river, *R. Brown*; summits of all the mountains above 3000 or 4000 ft., *J. D. Hooker*.

The species is also in New Zealand.

3. **P. ericæfolia**, *Hook. f. in Hook. Lond. Journ.* vi. 271; *Fl. Tasm.* i. 255. *t.* 77 A. A densely branched, diffuse or prostrate, heath-like shrub, extending to above a foot, with numerous, shortly ascending, glabrous or pubescent branchlets. Leaves erect and often closely appressed, linear or lanceolate, obtuse or with a callous point, concave, prominently 1- or 3-ribbed, 2 or rarely 3 lines long. Flowers 1, 2 or 3 together at the ends of the branches, each one solitary in the axil of one of the last leaves. Bracts several, very small, the two uppermost rather longer, one with a minute rudiment. Bracteoles about half as long as the calyx, ciliate. Sepals nearly 1 line long, obtuse, ciliate. Corolla-tube about 2 lines long, pubescent or nearly glabrous outside, and slightly hairy inside; lobes shorter than the tube, bearded inside. Anthers half included in the corolla-tube. Hypogynous disk lobed, readily separating into distinct scales. Style long.

Tasmania. Abundant in the alpine districts between Marlborough and Lake St. Clair, *Gunn*.

4. **P. ? verticillata**, *Hook. f. Fl. Tasm.* i. 256. *t.* 77 B. A low, diffuse or prostrate shrub, extending to 1 ft. or more, the branches shortly ascending, covered with small, acuminate, almost scarious scales, which appear to be the persistent leaf-bud scales or abortive leaves at the base of each year's

shoot, which exist in most *Epacridææ*, but are almost always very deciduous. Perfect leaves clustered at the end of each year's shoot, as in *Cyathodes glauca* and *C. straminea*, petiolate, linear, shortly mucronate, with thick revolute margins, 2 to 3 lines long. Flowers 2 or 3 together besides the rudiment, in a short spike, at first terminal, but becoming lateral by the development of the new leaf-bud. Bracts and bracteoles acuminate, ciliate, more than half as long, and sometimes nearly as long, as the calyx. Sepals oblong, $1\frac{1}{2}$ lines long, ciliate, fringed. Corolla-tube scarcely so long as the calyx; lobes nearly 1 line long, bearded inside. Anthers included in the tube. Hypogynous scales distinct. Ovary 5-celled; style very short. Fruit unknown.

Tasmania. Mount Sorrell, Macquarrie Harbour, *Milligan*. Until the nature of the fruit is ascertained, it remains in some measure doubtful whether this should be referred to *Pentachondra*, to *Leucopogon*, or to *Cyathodes*.

7. TROCHOCARPA, R. Br.

(Decaspora, R. Br.)

Corolla-tube cylindrical or campanulate, glabrous or with reflexed hairs inside at the top; lobes usually shorter than the tube, recurved, glabrous or bearded inside. Filaments inserted in the top of the tube, short, filiform; anthers attached at or near the top, partially included in the tube or recurved with the lobes. Hypogynous disk truncate, lobed or separating into distinct scales. Ovary 10-celled, with 1 ovule in each cell; style rather thick, usually short; stigma small. Fruit a globular or depressed drupe, the mesocarp pulpy, the endocarp separating or separable into 10 (or fewer by abortion) distinct pyrenes.—Shrubs. Leaves usually petiolate, flat or convex. Flowers several together in spikes, either terminal or in the axils of the previous year's leaves, or lateral on the old wood, each flower sessile within the small subtending bract and two bracteoles.

The genus is limited to Australia. It differs from *Leucopogon* in the separable pyrenes of the fruit; the corolla-lobes are also in some species beardless, and the increased number of cells of the ovary is very rare in other *Stypheliceæ*. I have followed F. Mueller in uniting the two genera, the close affinity of which Brown himself had pointed out, notwithstanding the different aspect which the looser inflorescence and large leaves give to the *T. laurina*. The three species since added form a third group, as different from the two others as these are from each other.

- Spikes slender, interrupted, chiefly terminal. Leaves large. Corolla-tube cylindrical 1. *T. laurina*.
 Spikes dense, terminal, cylindrical, recurved. Corolla-tube campanulate.
 Leaves ovate-lanceolate to oblong, strongly nerved, flat or slightly concave, $\frac{1}{2}$ to 1 in. long 2. *T. disticha*.
 Leaves ovate, obscurely nerved, very convex, rarely exceeding 2 lines 3. *T. thymifolia*.
 Spikes dense, nearly globular, in the previous year's axils or terminating short branchlets. Leaves strongly nerved. Fruit smooth and succulent.
 Low, diffuse shrub. Corolla-tube 2 lines long 4. *T. Clarkei*.
 Tall shrub. Corolla-tube 1 line long 5. *T. Gunnii*.
 Spikes dense, few-flowered, chiefly on the old wood. Fruit small, with little pulp, prominently 10-ribbed. Western species 6. *T. parviflora*.
 (The ovary is 6- to 10-celled also in *Cyathodes glauca*, in *Leucopogon pluriloculatus* and *L. pleiospermus*, and in *Acrotriche aggregata*.)

1. **T. laurina**, *R. Br. Prod.* 548. A tree of 20 to 30 or even 40 ft., quite glabrous. Leaves usually clustered at the ends of each year's shoots, so as to appear almost verticillate, petiolate, broadly oval or elliptical, acuminate, shining, 5- to 7-nerved on both sides, mostly $1\frac{1}{2}$ to 2 in. long. Flowers small, white, in terminal, solitary or clustered, interrupted spikes, $\frac{3}{4}$ to 1 in. long. Bracts small; bracteoles obtuse, not half so long as the calyx. Sepals $\frac{1}{2}$ line long or rather more, obtuse, striate. Corolla-tube about 1 line long; lobes shorter than the tube, bearded to the middle as well as the upper part of the tube with reflexed hairs. Hypogynous disk shortly lobed. Ovary tapering into a short style. Drupe depressed-globular, 3 to 4 lines diameter, the pyrenes less readily separable than in the other species. DC. *Prod.* vii. 758; *Bot. Mag.* t. 3324; *F. Muell. Fragm.* vi. 57; *Cyathodes laurina*, Rudge in *Trans. Linn. Soc.* viii. 293. t. 9 (*Styphelia cornifolia* on the plate).

Queensland. Brisbane river, Moreton Bay, *Fraser, F. Mueller.*

N. S. Wales. Port Jackson, *R. Brown* and others; northward to Hastings and Clarence rivers, *Beckler, Wilcox*; New England, *C. Stuart*; Head of Bellinger river (a small and narrow-leaved, stunted variety), *C. Moore*; southward to Illawarra, *Shepherd.*

2. **T. disticha**, *Spreng. Syst.* i. 660. A tall shrub, with slender branches, quite glabrous in the original form. Leaves very shortly petiolate, spreading and somewhat distichous, from broadly ovate-lanceolate to narrow oblong-lanceolate, acute or almost obtuse, shining above, 3- or 5-nerved underneath, $\frac{1}{2}$ to 1 in. long. Flowers red, in dense, terminal, recurved spikes of $\frac{1}{2}$ to $\frac{3}{4}$ in. Bracts very small; bracteoles about half as long as the calyx. Sepals about 1 line long, broad, striate. Corolla campanulate, the tube about 2 lines long, the lobes short, recurved, with a dense tuft of long hairs at the base reflexed into the tube, otherwise glabrous. Hypogynous disk shortly lobed. Fruit bluish-purple, succulent, with 10 distinct pyrenes. — *Cyathodes disticha*, Labill. *Pl. Nov. Holl.* i. 58. t. 82; *Decaspora disticha*, *R. Br. Prod.* 548; DC. *Prod.* vii. 758; *Hook. f. Fl. Tasm.* i. 254.

Tasmania. Recherche Bay, *Labillardiere* and others; South Port, *C. Stuart.*

Var. *Cunninghamii*. Branches hirsute. Leaves usually but not always smaller. — *Decaspora Cunninghamii*, DC. *Prod.* vii. 758; *Deless. Ic. Sel.* v. t. 25; *Hook. f. Fl. Tasm.* i. 254. — Macquarrie Harbour, *A. Cunningham*; Fagus forest, S.W. of Lake St. Clair, and Mount Olympus, *Gunn.*

3. **T. thymifolia**, *Spreng. Syst.* i. 660. A low and diffuse or bushy shrub of 1 to 2 ft., the branches usually pubescent. Leaves more petiolate than in other species, ovate to broadly oblong, obtuse or with a short callous point, convex, rather thick, obscurely veined or with the midrib prominent underneath, 1 to 2 lines long. Flowers in dense, terminal, cylindrical, recurved spikes, of $\frac{1}{2}$ to $\frac{3}{4}$ in. Bracts and bracteoles very short, broad, ciliate. Sepals about 1 line long, broad, obtuse, coloured. Corolla-tube campanulate, slightly exceeding the calyx; lobes shorter than the tube, bearded inside. Hypogynous scales distinct or slightly cohering. — *Decaspora thymifolia*, *R. Br. Prod.* 548; DC. *Prod.* vii. 758; *Hook. f. Fl. Tasm.* i. 254.

Tasmania. Summit of Mount Wellington, *R. Brown, J. D. Hooker*; Western Mountains, *C. Stuart.*

4. **T. Clarkei**, *F. Muell. Fragm.* vi. 57. A small, diffuse shrub, glabrous or the branches slightly pubescent. Leaves elliptical-oblong to oblong-lanceolate, obtuse or rarely almost acute, 3- or 5-nerved, 3 to 5 lines long. Flowers not very numerous, in dense globular heads, nearly sessile at the ends of the branches or in the axils of the leaves on the previous year's shoots, otherwise precisely as in *T. disticha*. Corolla campanulate, as in that species, and of the same size, with similar long tufts of hairs descending into the tube from the base of the lobes. Fruit much larger, fully 4 lines diameter, blue or of a bluish-purple, very pulpy.—*Decaspora Clarkei*, *F. Muell.* in *Trans. Phil. Soc. Viet.* i. 106, and in *Hook. Kew Journ.* viii. 163.

Victoria. Shady ravines of Mount Wellington, Gipps' Land, Baw-Baw mountains, Mount Barkly, and others of the Australian Alps; abundant at an elevation of 4000 to 5000 ft., *F. Mueller*.

5. **T. Gunnii**, *Benth.* A tall, densely-branched shrub, attaining sometimes 10 to 12 ft., glabrous or the branchlets pubescent. Leaves from oval-elliptical to oblong, obtuse or with a short callous point, strongly ribbed underneath, 3 to 4 lines long when broad, nearly $\frac{1}{2}$ in. when narrow. Flowers white, few together, in short, nearly globular spikes, terminating short, leafy branches, or sessile in the axils of the leaves of the previous year's shoots. Bracts and bracteoles about half as long as the calyx. Sepals broad, obtuse, about $\frac{1}{4}$ line long. Corolla-tube campanulate, shortly exceeding the calyx; lobes short, the whole corolla glabrous inside and out. Hypogynous disk short, truncate. Fruit globular, succulent, 3 or 4 lines diameter, purple or violet (*Gunn*) or orange (*Oldfield*).—*Decaspora Gunnii*, *Hook. f.* in *Hook. Loud. Journ.* vi. 270, and *Fl. Tasm.* i. 254. t. 76.

Tasmania. Dense humid forests, S.W. of Lake St. Clair, and Hampshire Hills, *Gunn*; Foot of Mount Lapeyrouse, *Oldfield*.

6. **T. parviflora**, *Benth.* Apparently a somewhat spreading, bushy shrub. Leaves oblong-elliptical or narrow-ovate, obtuse, thick, somewhat glaucous and finely veined underneath, 3 to 4 lines long. Flowers few together, in little clusters, almost sessile in the axils of the older leaves, apparently small, but only seen in young bud. Bracts and bracteoles very broad. Sepals quite those of the genus. Corolla as yet very small in the specimens, the lobes valvate and showing as yet no hairs, although those in the throat are already prominent. Fruits clustered, depressed-globular, about 2 lines diameter, with 10 distinct pyrenes, their outer edges prominent from the desiccation of the pulp.—*Decaspora parviflora*, *Stuebel*, in *Bull. Mose.* 1859, i. 10.

W. Australia, *Drummond, Ath. Coll. n.* 157. The aspect and inflorescence are nearly those of some forms of *Acrotiche ovalifolia*, but the fruit is totally different.

3. CYATHODES, Labill.

(*Ardisia*, *Gertn.*)

Corolla-tube longer or rarely shorter than the calyx, cylindrical or contracted at the throat, glabrous or hairy inside above the middle, without tufts of hairs or scales below the middle; lobes valvate in the bud, spreading or

recurved towards the end, glabrous or bearded inside. Filaments inserted at the top of the tube, short, filiform or somewhat thickened; anthers wholly or partially enclosed in the tube or the erect base of the corolla-lobes. Hypogynous disk cup-shaped or annular, truncate, 5-lobed or consisting of 5 distinct scales. Ovary 5-celled or in one species 8- to 10-celled; style not exceeding the corolla-tube; stigma small. Fruit a baccate drupe, the mesocarp pulpy, the endocarp hard and bony, with 5 cells and seeds or fewer by abortion, or in one species 6 to 10.—Shrubs, usually much branched low and prostrate, but sometimes tall and almost arborescent. Leaves in most species white or hoary underneath. Flowers small, solitary in the axils, terminating short peduncles, with several imbricate bracts, the uppermost gradually enlarged and embracing the base of the calyx.

The genus extends over eastern Australia, New Zealand, the eastern Archipelago, and the Pacific Islands. Of the eight Australian species, one only, a maritime one, is also in New Zealand, the others are all endemic. The technical characters are very nearly those of *Leucopogon*, but the corolla-lobes are less bearded or glabrous, and the fruit much more pulpy; and the genus may, as far as I have observed, be easily determined by the inflorescence, except in one ambiguous species. The flower terminates the peduncle, the bracts being gradually enlarged to the 2 uppermost, which, although unequal and not different in insertion from the lower ones, must probably, nevertheless, be considered as bract-les; and (except in *C. adscendens*) I have never found the rudimentary flower which in *Leucopogon* terminates the spike or raceme above the last flower and its subtending bract.

Leaves from oval-elliptical to oblong-linear, obtuse or minutely mucronate, white underneath.

Tall shrub or tree. Leaves mostly above $\frac{1}{2}$ in. long. Ovary 8- to 10-celled

Bushy or prostrate shrubs. Leaves mostly under $\frac{1}{2}$ in. long. Ovary 5-celled.

Leaves mostly 5- or 7-nerved underneath.

Erect, bushy shrub. Corolla-lobes bearded along the centre.

Disk truncate

Diffuse shrub. Corolla-lobes bearded above the middle. Disk of 5 distinct scales

Leaves mostly 1- or 3-nerved underneath. Prostrate shrub. Disk 5-lobed

Leaves linear-lanceolate, green on both sides, very rigid, with a short, hard, not pungent point

Leaves linear or lanceolate-subulate, tapering into a pungent point.

Leaves mostly about $\frac{1}{2}$ in. long. Peduncles very short. Corolla-lobes glabrous

Leaves $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Peduncles 1 to 2 lines. Corolla-lobes hairy inside

Leaves mostly $\frac{1}{4}$ in. long. Peduncles very short. Corolla-lobes glabrous

1. *C. glauca*.

2. *C. straminea*.

3. *C. adscendens*.

4. *C. dealbata*.

5. *C. abietina*.

6. *C. acerosa*.

7. *C. divaricata*.

8. *C. parvifolia*.

1. *C. glauca*, Labill. Pl. Nov. Holl. i. 57. t. 81. Usually a weak straggling shrub or small tree, but attaining sometimes 30 to 40 ft. (*Labillardière*, *C. Stuart*), glabrous or the branchlets minutely pubescent. Leaves mostly clustered at the ends of the year's shoots so as to appear almost whorled, oblong-linear, minutely mucronate, entire, slightly convex, glaucous underneath, mostly $\frac{3}{4}$ to 1 in. long, but a few occasionally much shorter and broader. Flowers almost sessile, clustered with the floral leaves, and much shorter than them. Sepals nearly 2 lines long, obtuse, and minutely ciliate as well as the bracts. Corolla 3 to $3\frac{1}{2}$ lines long, the tube very shortly ex-

ceeding the calyx; lobes shorter than the tube, bearded along the centre, the lower hairs longer and reflexed into the tube. Filaments rather thick; anthers linear, attached near the top. Disk truncate. Ovary 8- to 10-celled; style rigid, included in the corolla-tube. Fruit rather large, very pulpy.—R. Br. Prod. 539; DC. Prod. vii. 740; Hook. f. Fl. Tasm. i. 245; *Trochocarpa glauca*, Spreng. Syst. i. 660; *Styphelia Billardieri*, F. Muell. Fragm. vi. 43.

Tasmania. Derwent River, *R. Brown*; common in the mountainous parts of the island at an elevation of from 1000 to 3000 ft., *J. D. Hooker*.

2. **C. straminea**, *R. Br. Prod.* 539. A bushy shrub of 2 to 3 ft. Leaves usually crowded towards the ends of the year's shoots nearly as in *C. glauca*, but sometimes rather more scattered, narrow-oblong, obtuse or with a small callous point, slightly concave, glaucous underneath, rarely exceeding $\frac{1}{2}$ in. or sometimes all under that length, and broadly oblong. Flowers nearly sessile. Sepals 2 to nearly 3 lines long, obtuse, and minutely ciliate as well as the bracts. Corolla from 4 to nearly 6 lines long, the tube exceeding the calyx, hairy inside towards the throat; lobes not half so long as the tube, slightly bearded inside along the centre. Filaments rather thick; anthers attached near the top. Hypogynous disk truncate. Ovary 5-celled; style shorter than the corolla-tube. Fruit very pulpy.—DC. Prod. vii. 741; Hook. f. Fl. Tasm. i. 245; *Styphelia straminea*, Spreng. Syst. i. 656; F. Muell. Fragm. vi. 43; *Cyathodes macrantha*, Hook. f. Fl. Tasm. i. 215.

Tasmania. Mount Wellington, at an elevation of 4000 ft., *R. Brown*, *J. D. Hooker*; sides of Mount Olympus, at 4000 to 5000 ft., *Gunn*; Mennai Falls, *Archer*; western mountains, at 3000 to 4000 ft., *C. Stuart*.

Hooker's *C. macrantha* has narrower leaves and much larger flowers than the typical *C. straminea*, but *C. Stuart*'s specimens are quite intermediate between the two.

3. **C. adscendens**, *Hook. f. in Hook. Lond. Journ.* vi. 268, and *Fl. Tasm.* i. 245. t. 74 A. A stout, diffuse shrub, with numerous ascending branches of 6 to 8 in. Leaves crowded along the branches, oblong or almost ovate, obtuse or with a short callous point, flat or slightly incurved, glaucous and striate underneath, $\frac{1}{4}$ in. long or rather more. Flowers sessile, 2 or 3 together in the same axil or sometimes solitary, but always with an additional rudiment. Bracteoles much shorter than the calyx. Sepals rather above 1 line long, obtuse, striate. Corolla-tube not $1\frac{1}{2}$ lines long, nearly glabrous inside; lobes short, recurved, densely bearded above the middle. Filaments inserted below the throat; anthers attached near the top, almost entirely included in the tube. Hypogynous disk separating into distinct truncate scales. Ovary 5-celled; style short. Fruit small.—*Styphelia Hookeri*, F. Muell. Fragm. vi. 44; *Leucopogon petiolaris*, DC. Prod. vii. 753 (from the character given).

Tasmania. Summit of Mount Wellington, *J. D. Hooker* and others; western mountains, *C. Stuart*. This species has the inflorescence of *Leucopogon*, and ought, perhaps, to be transferred to that genus; but the fruit is much more pulpy than in any *Leucopogon*, and the aspect and foliage are quite those of *Cyathodes*.

4. **C. dealbata**, *R. Br. Prod.* 539. A small, diffuse or prostrate, much-branched shrub. Leaves crowded along the branches, oblong-linear, obtuse,

with a small, rigid, deciduous point, incurved, white underneath, with 1 or sometimes 3, very rarely 5, prominent ribs. Flowers very shortly pedicellate, solitary in the axils. Bracts several, gradually enlarged. Sepals $1\frac{1}{2}$ lines long, obtuse, scarcely ciliate. Corolla-tube $2\frac{1}{2}$ lines long, slightly hairy inside above the middle; lobes small, bearded inside. Filaments inserted below the top of the tube; anthers attached above the middle, almost entirely included in the tube. Hypogynous disk obtusely 5-lobed. Ovary 5-celled; style short. Fruit small, globular, with a pulpy mesocarp. DC. Prod. vii. 741; Hook. f. Fl. Tasm. i. 245; *Styphelia dealbata*, Spreng. Syst. i. 659; F. Muell. Fragm. vi. 43.

Tasmania. Summit of Mount Wellington, *R. Brown, Gunn.*

5. **C. abietina**, *R. Br. Prod.* 540. A stout, rigid, erect, bushy shrub of 1 to 2 ft. Leaves crowded along the branches, erect or spreading, linear-lanceolate, very rigid, flat, with a short, hard, but not pungent point, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Flowers solitary in the axils, on very short pedicels. Bracts numerous. Sepals broad, obtuse, striate, rather unequal, the inner ones fully 1 line long. Corolla-tube rather broad, nearly $1\frac{1}{2}$ lines long, villous inside between the stamens to below the middle; lobes nearly 1 line long, spreading, bearded inside. Filaments filiform, half as long as the lobes; anthers attached near the top, half-exserted. Hypogynous scales irregularly lanceolate, free or united at the base. Ovary 5-celled. Drupe large, red, very pulpy.—DC. Prod. vii. 741; Hook. f. Fl. Tasm. i. 247; *Styphelia abietina*, Labill. Pl. Nov. Holl. i. 48. t. 68; F. Muell. Fragm. vi. 43.

Tasmania, *Labillardière*; D'Entrecasteaux Channel, *Guen*; South Port Island, *C. Stuart*.

6. **C. acerosa**, *R. Br. Prod.* 539 and 540 in the obs. A shrub of several feet or a small tree, with spreading branches, or rarely low and diffuse. Leaves scattered, spreading or reflexed, linear or lanceolate-subulate, rigid, and tapering into a pungent point, with recurved margins, mostly about $\frac{1}{2}$ in. long. Flowers solitary in the upper axils, on short, recurved pedicels. Bracts several. Sepals very obtuse, scarcely above 1 line long. Corolla-tube rather broad, usually nearly 2 lines long, and glabrous inside, the lobes short, recurved, glabrous (or rarely sprinkled with a few long hairs?). Filaments very short, inserted just below the top of the tube; anthers half-exserted. Hypogynous scales broad, quite distinct or more or less united. Ovary 5-celled; style very short. Drupe rather large, pulpy.—DC. Prod. vii. 741; Hook. f. Handb. N. Zool. Fl. 176; *Ardisia acerosa*, Gärtn. Fruct. ii. 78. t. 94; *Styphelia oxycedrus*, Labill. Pl. Nov. Holl. i. 49. t. 69; F. Muell. Fragm. vi. 43; *Cyathodes oxycedrus*, *R. Br. Prod.* 540; DC. Prod. vii. 741; Hook. f. Fl. Tasm. i. 246; *Lissanthe acerosa* and *L. oxycedrus*, Spreng. Syst. i. 660.

Victoria. Maritime rocks and sands, Sealer's Cove, Wilson's Promontory, Phillip's Island, *F. Mueller*; Rabbit Island, *J. Bosisto*.

Tasmania. Islands of Bass's Straits, *R. Brown*; Circular Head, Recherche Bay, and other parts of the island, *J. D. Hooker*.

This species is also in New Zealand.

7. **C. divaricata**, *Hook. f. Fl. Tasm.* i. 246. t. 74 B, partly. A rigid,

bushy, juniper-like shrub, closely resembling *C. acerosa*, but with smaller and finer leaves although equally rigid and pungent, and the flowers on recurved pedicels of 1 to 2 lines, with the corolla-lobes bearded inside with long, scattered hairs. Bracts very small, upper ones less enlarged than in the other species, and only 1 or 2 (bracteoles?) reach the calyx, which at first induced the placing the plant in *Lissanthe*, but the flower appears to be constantly terminal and solitary without the additional rudimentary one of *Lissanthe* and *Leucopogon*.—*Lissanthe decaricata*, Hook. f. in Hook. Lond. Journ. vi. 269.

Tasmania. Foot of Mount Wellington and other hills near Hobarton, *J. D. Hooker*; Swan Port, *Gunn*; elevated places among rocks, *Story*.

F. Mueller unites this species with *L. acerosa*, and, as it would appear, correctly so as to the seacoast and Victorian plant, from which the principal figure in Hooker's plate was taken, but the specimens from the above-quoted Tasmanian localities show differences, which can scarcely be pronounced insufficient for distinguishing a species without further investigation.

8. *C. parvifolia*, *R. Br. Prod.* 340. A rigid shrub of 2 to 4 ft. Leaves linear or lanceolate-subulate, tapering into a pungent point, rigid, with recurved margins, glaucous or white underneath, mostly about $\frac{1}{4}$ in. long. Flowers solitary in the upper axils, on exceedingly short, recurved peduncles. Bracts few. Sepals not 1 line long, ovate, obtuse. Corolla-tube about $1\frac{1}{2}$ lines long, the lobes short, all quite glabrous. Filaments short, inserted at the throat. Hypogynous disk short, sinuate-toothed. Ovary 5-celled. Drupe pulpy.—*DC. Prod.* vii. 741; *Hook. f. Fl. Tasm.* i. 246; *Lissanthe parvifolia*, *Spreng. Syst.* i. 660.

Tasmania. Derwent River, *R. Brown*; abundant, especially in hilly parts of the island, ascending to 3000 ft., *J. D. Hooker*.

9. BRACHYLOMA, Sond.

(*Lobopogon*, *Schlecht.*)

Corolla-tube short, glabrous inside, but a ring of long hairs descending into it from tufts or fringed scales at the base of each lobe; lobes more or less imbricate in the bud (almost valvate in *B. duphnoioides*), spreading, glabrous or slightly bearded. Filaments very short, inserted near the top of the tube; anthers 1-celled, attached above the middle, wholly or partially included in the tube. Hypogynous disk truncate or 5-lobed, readily separating into distinct scales. Ovary 5-celled, with 1 ovule in each cell. Style short; stigma small. Fruit a small depressed or globular drupe, the mesocarp somewhat pulpy.—Shrubs, with the foliage of some species of *Cyathodes* and *Leucopogon*. Flowers small, solitary in the axils. Pedicels short, with very small bracts or none besides the bracteoles.

The genus is limited to Australia. It is easily distinguished, as well by the imbricate aestivation of the corolla-lobes, which, although slight in one species, is very conspicuous in the others, as by the long hairs descending into the tube, which occur only in some species of *Leucopogon*, otherwise distinguishable by their inflorescence.

SECT. I. *Lobopogon*.—Corolla-lobes obtuse. Bracts several.

Leaves flat or slightly convex, pale underneath. 1. *B. Preissii*.

Leaves slightly concave or almost flat, the two surfaces of the same colour.

- Leaves oblong or lanceolate, with a rigid point. Corolla-lobes glabrous (besides the reflexed hairs of the base) 2. *B. concolor*.
 Leaves linear or oblong-linear. Corolla-lobes bearded in the middle 3. *B. ericoides*.

SECT. II. **Lissanthoides**.—Corolla-lobes acutely acuminate. Bracts none besides the 2 bracteoles.

- Leaves lanceolate, tapering into a long, pungent point. Corolla-lobes much imbricate 4. *B. depressum*.
 Leaves ovate-elliptical or oblong-lanceolate, with a short pungent point. Corolla-lobes moderately imbricate 5. *B. ciliatum*.
 Leaves ovate elliptical or oblong-lanceolate, obtuse, with a minute callous point. Corolla-lobes slightly imbricate at the base 6. *B. daphnoides*.

SECT. I. **LOBOPOGON**.—Corolla-lobes obtuse. Bracts several.

1. **B. Preissii**, *Sond. in Pl. Preiss.* i. 305. An erect, bushy shrub, the branches slightly hairy. Leaves linear-oblong, obtuse but often mucronate, minutely denticulate-ciliate, flat or convex, pale or hoary underneath, mostly about $\frac{1}{2}$ in. long. Peduncles axillary, 2 to 3 lines long, with several bracts; bracteoles at least half as long as the calyx. Sepals 2 lines long or rather more, almost scarious, shortly mucronate. Corolla-tube shorter than the calyx, rather broad, with reflexed scales in the throat copiously fringed with long hairs; lobes as long as the tube, obtuse, much imbricate in the bud. Filaments short, slightly dilated upwards; anthers attached above the middle. Hypogynous disk truncate, minutely 5-toothed. Ovary 5-celled. Style short. Fruit enclosed in the calyx, depressed-globular, remarkably furrowed.—*Styphelia brachyloma*, F. Muell. *Fragm.* vi. 39.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 480; Bull's Creek, *Preiss*, n. 426; Manden, *Clarke*; Harvey river, *Oldfield*. Drummond's specimens, n. 138 and 264, appear to be the same species, but the remains of flowers are too imperfect to determine.

2. **B. concolor**, *F. Muell. Fragm.* vi. 39. An erect, bushy shrub, glabrous or the branches slightly pubescent. Leaves petiolate, oblong or ob-lanceolate, with a short fine point, slightly concave, thick and nearly as smooth and shining underneath as above, mostly 3 to 4 lines long. Peduncles under 1 line long, the bracts minute; bracteoles very small. Sepals $\frac{3}{4}$ line long. Corolla nearly 2 lines long, quite glabrous, except the long hairs reflexed into the tube from the base of the lobes; lobes as long as the tube, much imbricate. Filaments exceedingly short, flat; anthers attached near the top, slightly cohering in a ring. Hypogynous disk truncate, readily separating into scales. Ovary 5-celled; style short. —*Styphelia geissoloma* or *Stenantha brachyloma*, F. Muell. *Fragm.* vi. 39.

W. Australia. To the eastward of King George's Sound, *Baxter, Maxwell*.

3. **B. ericoides**, *Sond. in Linnea*, xxvi. 247. A low, bushy or diffuse shrub, the branches shortly pubescent. Leaves erect or spreading, linear or oblong-linear, with a fine rigid point, minutely denticulate-ciliate, flat or slightly concave, mostly 3 to 4 lines long. Flowers nearly sessile. Bracts few; bracteoles half as long as the calyx. Sepals about 2 lines long, very obtuse and almost scarious. Corolla about 3 lines long, the tube shorter than the calyx, with reflexed scales in the throat fringed with long hairs descending into the tube; lobes rather shorter than the tube, ovate, obtuse.

imbricate in the bud, bearded in the centre. Filaments very short; anthers obtuse, attached near the top. Hypogynous disk truncate. Ovary 5-celled; style longer than in the preceding species. Fruit as long as the calyx, globose, with 5 raised lines.—Hook. Ic. Pl. t. 1038; *Lobopogon ericoides*, Schlecht. Linnaea, xx. 620; *Stenanthera ericoides*, F. Muell. Fragm. iv. 98; *Styphelia lobopogona*, F. Muell. Fragm. vi. 39.

Victoria. Grampians, *F. Mueller*; Wimmera, *Dallachy*.

S. Australia. Murray desert, near Torunda, Kangaroo Island, *F. Mueller*; Encounter Bay, *Whittaker*.

SECT. II. LISSANTHOIDES.—Corolla-lobes acutely acuminate, more or less dilated and overlapping at least at the base. Bracts none besides the 2 bracteoles.

4. **B. depressum**, *Benth.* A very rigid, diffuse, much-branched shrub, spreading sometimes to several ft. Leaves sessile or nearly so, lanceolate or linear-lanceolate, rigid, tapering into a long pungent point, the larger ones $\frac{1}{2}$ in. long or rather more. Flowers solitary at each node, but clustered at the base of the short flowering branches, the subtending leaves mostly abortive. Peduncles very short, without bracts; bracteoles acuminate. Sepals lanceolate, acutely acuminate, about 1 line long. Corolla-tube about 1 line long, with a ring of long reflexed hairs in the throat; lobes broad, acuminate, much imbricate in the bud, quite glabrous. Anthers attached near the top and nearly sessile. Hypogynous disk truncate, readily separating into distinct scales. Ovary 5-celled; style short. *Lissanthe depressa*, F. Muell. Fragm. i. 36; *Styphelia depressa*, F. Muell. Fragm. vi. 42 (not of l. c. 44).

Victoria. Mount Sturgeon, Grampians, *F. Mueller*; Wimmera, *Dallachy*.

Tasmania. Granite rocks at Bicheno, *Story*.

5. **B. ciliatum**, *Benth.* A low, diffuse or prostrate shrub, with ascending branches, glabrous or slightly pubescent. Leaves shortly petiolate, ovate-elliptical or oblong-lanceolate, with a short, pungent point, flat, often minutely denticulate-ciliate, 3 to 4 lines long. Peduncles very short, without any bracts except the 2 bracteoles embracing the calyx. Sepals about $\frac{1}{2}$ line long. Corolla-tube longer than the calyx, rather broad, with a ring of long hairs reflexed from the throat; lobes acute, imbricate in the bud, but not so much so as in *B. depressum*, usually shortly bearded inside. Filaments short; anthers attached above the middle. Hypogynous disk 5-lobed. Ovary 5-celled; style short.—*Lissanthe ciliata*, R. Br. Prod. 541; DC. Prod. vii. 743; Hook. f. Fl. Tasm. i. 248; *Styphelia ciliata*, F. Muell. Fragm. vi. 42.

Victoria. Acid plains near Mount Abrupt, and Victoria Range, *F. Mueller*; Creswick Creek, *Whan*; heaths near Portland, *Robertson*, *Allitt*.

Tasmania. Port Dalrymple, *R. Brown*; northern parts of the island, *J. D. Hooker*.

The species is very near *B. daphnoides*, differing chiefly in the pungent point to the leaves, in the shorter, broader corolla-tube, and the depressed habit.

6. **B. daphnoides**, *Benth.* An erect, bushy shrub, glabrous or the branchlets pubescent. Leaves sessile or shortly petiolate, ovate-elliptical or oblong-lanceolate, obtuse or with a short callous point, flat or slightly concave, 3 to 4 lines long. Flowers solitary in the axils or at the nodes,

but often several at the base of the shoots, without subtending leaves. Pedicels very short, without any bracts except the 2 unequal bracteoles embracing the calyx. Sepals $\frac{1}{2}$ to $\frac{3}{4}$ line long, usually ciliate. Corolla-tube $1\frac{1}{2}$ to nearly 2 lines long, with a ring of long hairs inside reflexed from the throat; lobes narrow, much shorter than the tube, acute and nearly valvate, but 2 of them at least slightly dilated and overlapping the intermediate one at the base, glabrous or very shortly bearded inside. Filaments very short; anthers attached above the middle. Hypogynous disk 5-lobed. Ovary 5-celled; style short. Fruit small, globular.—*Styphelia daphnoides*, Sm. Bot. Nov. Holl. 48; F. Muell. Fragm. vi. 42; *Lissanthe daphnoides*, R. Br. Prod. 541; DC. Prod. vii. 743; Lodd. Bot. Cab. t. 466; Hook. f. Fl. Tasm. i. 248; *L. Cunninghamii*, DC. Prod. vii. 743; *L. stellata*, Knowles and Weste. Fl. Cab. iii. 79 (from the description given).

Queensland. Sandy Cape, *R. Brown*; Moreton island, *F. Mueller*; Mount Mitchell, *Beckler*.

N. S. Wales. Port Jackson, *R. Brown*, *Sieber*, n. 100, and others; near Bathurst, *Woolfs*; St. George's Range, *A. Cunningham*; New England, *C. Stuart*; sandy ridges, Cape Byron, *C. Moore*; and southward to Twofold Bay, *F. Mueller*.

Victoria. Grampians, Forest Creek, rocks on the Macalister river, and elsewhere in the Australian Alps, ascending to 4000 ft., *F. Mueller*; Wendu vale, *Robertson*.

Tasmania? *R. Brown* (Prod.). I have seen no Tasmanian specimens; there are none in Brown's Herbarium, and Scott's authority, quoted by J. D. Hooker, is founded on a specimen evidently incorrectly labelled in the Hookerian Herbarium.

S. Australia. Tattiarra country, *Wood*.

10. NEEDHAMIA, R. Br.

Corolla-tube cylindrical; limb spreading, deeply divided into 5 lobes, induplicate-valvate in the bud, with inflexed tips, not bearded. Stamens inserted below the middle of the corolla-tube; filaments very short; anthers entirely included. Hypogynous disk cup-shaped. Ovary 2-celled; style short; stigma capitate. Fruit a small, dry drupe, 1- or 2-seeded.—A small shrub. Leaves small, opposite or alternate. Flowers solitary in the upper axils, without other subtending bracts than the floral leaf and 2 bracteoles.

The single species is limited to W. Australia. With the habit of some of the smaller species of *Leucopogon*, it is distinguished by the aestivation of the corolla-lobes and their want of beards.

1. **N. pumilio**, *R. Br. Prod.* 549. An erect or diffuse shrub, with slender branches not exceeding 6 in. Leaves erect, often closely appressed, linear or linear-lanceolate, acute or almost obtuse, concave or keeled, 1 to 2 lines long. Flowers at first forming a short terminal spike, the leaf-like bracts either smaller and more ciliate than the upper stem-leaves, and some of them coloured, others quite like the stem-leaves, and the axis ultimately grows out into a prolongation of the branch, with the flowers axillary at its base. Bracteoles linear, ciliate, as long as the calyx or even longer. Sepals thin, ciliate, scarcely above $\frac{1}{2}$ line long. Corolla-tube 1 to $1\frac{1}{4}$ lines long, the lobes broad, shorter than the tube, the whole corolla glabrous, inside and out. Hypogynous disk shortly lobed. Ovary pubescent; style exceedingly short.—DC. Prod. vii. 759; Deless. Ic. Sel. v. t. 26; Sond. in Pl. Preiss. i. 326; *Monotoca pumilio*, Spreng. Syst. i. 654.



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W. Australia. King George's Sound, *R. Brown*, and neighbouring districts, *Huegel*, *Drummond*, 2nd Coll. n. 259, 5th Coll. n. 334; *Preiss*, n. 436, 437, and many others; Swan River, *Drummond*, 1st Coll.; between Eyre's Range and Oldfield river, *Maxwell*. The station N. S. Wales, *Fraser*, given in the 'Plantæ Preissianæ' for a form of this species, is a mistake. *Fraser's* specimens were from King George's Sound.

11. LISSANTHE, R. Br.

Corolla-tube longer or shorter than the calyx, glabrous or hairy inside above the middle, without tufts of hairs or scales below the middle; lobes valvate in the bud, spreading or recurved upwards, glabrous inside. Filaments inserted at the top of the tube, short, filiform; anthers wholly or partially enclosed in the tube or erect base of the corolla-lobes. Hypogynous disk cup-shaped, sinuate or 5-toothed. Ovary 5-celled; style not exceeding the corolla-tube; stigma small. Fruit a baccate drupe, the mesocarp pulpy, the endocarp hard and bony, with 5 cells and seeds or fewer by abortion. Shrubs with the habit of *Leucopogon*. Flowers small, in small spikes or racemes, the terminal ones several-flowered, the axillary ones reduced to 2 or 3 or even a single one, but always ending with the rudiment of an additional flower, with 1 subtending bract and 2 bracteoles under each flower.

The genus is limited to Australia. It is here reduced to the first two sections of *Brown*, the third has the inflorescence and more or less imbricate corolla-lobes of *Brachyloma*, and is therefore referred to that genus. As thus defined, *Lissanthe* differs from *Cyathodes* in the inflorescence and in the less pulpy fruit, from *Leucopogon* solely in the want of the hairs or beards of the lobes of the corolla so universal in that genus.

Flowers racemose (pedicellate within the bracts and bracteoles).

Leaves linear or linear-lanceolate with recurved margins and short rigid

points $\frac{1}{2}$ to 1 in. long. Fruit mealy-pulpy 1. *L. sapida*.

Leaves linear, tapering into a pungent point, under $\frac{1}{2}$ in. long. Fruit

small, nearly dry 2. *L. strigosa*.

Flowers spicate (sessile within the bracts). Leaves oblong-linear, obtuse. 3. *L. montana*.

1. **L. sapida**, *R. Br. Prod.* 540. An erect shrub of 2 to 3 ft., with spreading branches, glabrous or very minutely pubescent. Leaves linear-oblong or linear-lanceolate, with a very short rigid point, the margins recurved or revolute, white underneath, $\frac{3}{4}$ to 1 in. long. Flowers white, in loose racemes, either axillary and 2- or 3-flowered or terminal with more numerous flowers. Bracts and bracteoles small, at the base of the pedicels. Sepals very broad and obtuse, about 1 line long, the 2 outer ones usually thickened or produced at the base. Corolla-tube 2 to 2½ lines long, hairy inside above the middle; lobes about as long as the tube, spreading towards the end, quite glabrous. Anthers obtuse, attached rather above the middle. Hypogynous disk slightly toothed. Ovary 5-celled, pubescent on the top; style rather thick, as long as the corolla tube. Fruit red, with a mealy-pulpy mesocarp.—*DC. Prod.* vii. 742; *Bot. Reg.* t. 1275; *Bot. Mag.* t. 3147; *Styphelia sapida*, *F. Muell. Fragm.* vi. 42.

N. S. Wales. Grose river, *R. Brown*; various localities in the Blue Mountains, *Sieber*, n. 95, *Woolfs*, and others; Bargo Brush, *Macarthur*, but apparently not generally common.

2. **L. strigosa**, *R. Br. Prod.* 540. A bushy shrub, sometimes low and

spreading, but usually erect and attaining about 2 ft., the branches glabrous or pubescent. Leaves linear, rigid, tapering into a pungent point, under $\frac{1}{2}$ in. long. Flowers white or more or less pink, crowded in short racemes, 2 or 3 in the axillary ones, more numerous in the terminal one, each flower very shortly pedicellate within the bract and bracteoles. Sepals ovate, obtuse, about 1 line long. Corolla-tube about $1\frac{1}{2}$ lines long, more or less hairy inside above the middle; lobes much shorter, glabrous. Anthers attached above the middle. Hypogynous disk shortly 5-lobed; style rather thick, pubescent at the base, shorter than the corolla-tube. Fruit small, globular. DC. Prod. vii. 742; Hook. f. Fl. Tasm. i. 247; *Styphelia strigosa*, Sm. Bot. N. Holl. 49; F. Muell. Fragm. vi. 42; *Lissanthe subulata*, R. Br. Prod. 540; DC. Prod. vii. 742; *L. intermedia*, A. Cunn.; DC. l. c.; *L. rigida*, Benth. in Hueg. Enum. 76; DC. l. c.

N. S. Wales. Port Jackson and Blue Mountains, *R. Brown*, *Sieber*, n. 104, and others.

Victoria. Dry stony hills, Snowy River, Bendigo diggings, Nangatta river, Station Peak, etc., *F. Mueller*; Creswick, *Whan*.

Tasmania. Derwent river, *R. Brown*; abundant throughout the island in dry clayey or gravelly places, *J. D. Hooker*.

S. Australia. Onkaparinga river, *F. Mueller*.

In Brown's herbarium, small-leaved specimens from Port Jackson and from Tasmania represent *L. strigosa*, and his *L. subulata* from Grose river has much larger leaves, but in a large number of specimens from various localities the two can no longer be separated even as marked varieties. *L. propinqua*, A. Cunn. Herb., quoted by De Candolle is *Leucopogon juniperinus*.

3. ***L. montana***, *R. Br. Prod.* 540. A small erect shrub of 6 in. to 1 ft. Leaves oblong-linear, obtuse or with an obscure callous point, flat, few-nerved, rarely exceeding $\frac{1}{2}$ in. Flowers few together in short dense terminal spikes, each flower sessile within the subtending bract, with 2 broad bracteoles half as long as the calyx. Sepals very obtuse, about $\frac{1}{2}$ line long. Corolla almost campanulate, about 1 line long, quite glabrous, the lobes rather longer than the tube. Hypogynous disk sinuate or shortly lobed. Ovary 5-celled; style short. Fruit small, white, pulpy.—DC. Prod. vii. 743; Hook. f. Fl. Tasm. i. 247.

Victoria. Munyong Mountains at an elevation of 5000 to 6000 ft., *F. Mueller*.

Tasmania. Mount Wellington, *R. Brown*; towards the summits of Mounts Wellington and others, *J. D. Hooker*.

F. Mueller, Fragm. vi. 45, under the name of *Styphelia montana*, unites this with *Leucopogon Hookeri*, and there is no doubt that the two plants closely resemble each other in foliage and general aspect, as already pointed out by Hooker, but independently of the want of the beard on the corolla-lobes, the difference in the size and shape of the flower appears to be constant, and, according to Gunn, the fruit has a clear translucent pulp in *L. montana*, whilst it is thick and opaque in *L. Hookeri*. The flowers appear to be partially dioecious in both species as in a few other small-flowered *Stypheliæ*.

Lissanthe mucronata, DC. Prod. vii. 743, from the east coast, Herb. Mus. Par., is distinguished by De Candolle from *L. montana* by the leaves strongly mucronate. I know of no such plant, possibly there may have been some mistake as to the genus.

12. **LEUCOPOGON**, *R. Br.*

(*Perojoa*, *Cav.*, *Phanerandra*, *Stechehl.*)

Corolla-tube longer or shorter than the calyx, glabrous or hairy inside



above the middle, without tufts of hairs or scales below the middle; lobes valvate in the bud, spreading or recurved in the upper portion, the whole inner surface, or rarely the lower portion only, densely bearded. Filaments inserted at the top of the tube, short, filiform; anthers wholly or partly enclosed in the tube or erect base of the corolla-lobes. Hypogynous disk cup-shaped, truncate, 5-toothed, 5-lobed or formed of 5 distinct scales (none in *L. esquamatus*). Ovary usually 2- 3- or 5-celled (in one species 1-celled and two others often 6- to 10-celled); style from very short to longer than the corolla-tube; stigma small, rarely larger and peltate. Fruit a drupe, the mesocarp sometimes pulpy but usually thin, the endocarp crustaceous or hard, with as many cells and seeds as in the ovary or fewer by abortion.—Shrubs of various habit, rarely rising into small trees. Flowers small, rarely $\frac{1}{2}$ in. long, in small spikes (or very rarely racemes), terminal or axillary, sometimes many-flowered, sometimes reduced to few or a single one, but the rachis always ending in the rudiment of an additional one; each flower sessile or rarely pedicellate within a subtending bract (deficient in *L. flavescens*), with 2 bractcoles close under or rarely at a little distance from the calyx.

The genus, chiefly Australian, is represented also by a few species in New Zealand and some islands of the Malayan Archipelago and South Pacific. Like *Lissanthe* it is only to be distinguished from *Gyathodes* either by the compound inflorescence or by the less pulpy fruit or by both characters, and would perhaps have been better united with that genus, were it not that the change would now produce so much inconvenience. From *Lissanthe* it is still more artificially separated by the bearded corolla-lobes.

The sterile tips of the anthers, by which the first section of the genus is chiefly characterized, are sometimes exceedingly short but usually of a paler colour than the rest of the anther. In a few species there is no discoloration, but they form a perfectly rounded extremity to the anther, not truncate or emarginate as is the open anther in the other sections. The characters derived from the hypogynous disk are not always very constant in species, especially where there is any approach to unisexuality as in *L. Hookeri* and a very few other species, and generally disks which are at first entire tend to separate into distinct scales as the flowering advances. The number of cells of the ovary is more constant, but not strictly so; the 2-celled species may in some flowers (though very rarely) add a third cell, and the 5-celled ones are occasionally reduced to 4, or the 3-celled ones may add a fourth. In the fruit the number of cells is very frequently reduced by abortion.

The so-called beard which lines the corolla-lobes and suggested the generic name, is particularly conspicuous in nearly the whole of the first section. It is then very white and dense, consisting of the upper portion of the lobes of long straight hairs inflexed in the bud, but erect when the flower expands, below this the hairs are woolly and intricate, and those at the base of the lobe are sometimes more or less reflexed into the tube as in *Brachyloma*. In several species of the second and third sections, and a very few of the first, the beard is less dense, less woolly, and not so white; in others of the second and third sections it is quite as in the first; in *L. verticillatus* it occupies only the lower half of the lobes.

Cavanilles' generic name of *Perojoa*, contracted by Persoon to *Peroa*, is undoubtedly prior to *Leucopogon*, and it does not appear for what reason it was rejected by Brown, but the substitution of *Leucopogon* has now been so long and so universally adopted, that the resumption of *Perojoa*, except as sectional, would only create confusion without a single practical advantage.

SECT. I. *Perojoa*.—Inflorescence chiefly or entirely terminal, rarely all axillary, and then the spikes long, slender and interrupted. Anthers with sterile tips. Style very short.

SECT. II. *Psilostachya*. Spikes slender, interrupted, axillary or terminal, usually as long as the leaves. Leaves flat or convex.

Leaves (large) crowded at the ends of each year's shoots, so as to appear verticillate. Ovary 5- or 4-celled.

Leaves usually 2 to 5 in. long. Spikes axillary or below the leaves. Corolla-tube longer than the calyx, lobes bearded in the lower half

1. *L. verticillatus*.

Leaves about 1 in. long. Spikes terminal. Corolla-tube shorter than the calyx, lobes bearded to the end

2. *L. interruptus*.

Leaves scattered. Ovary 2-celled.

Leaves broad, cordate, auriculate and stem-clasping.

Leaves mostly $\frac{1}{2}$ in. long or more. Eastern species

3. *L. amplexicaulis*.

Leaves under $\frac{1}{2}$ in. long. Stems filiform. Western species

4. *L. alternifolius*.

Leaves lanceolate. Fruit ovoid, red

5. *L. lanceolatus*.

Leaves scattered. Ovary 5-celled (see Ser. 2).

Leaves concave. Ovary 5-celled (see Ser. 7).

SERIES II. **Australes**.—*Spikes all terminal or also in the upper axils, short and dense, or cylindrical and rather dense (interrupted in L. distans). Leaves flat or convex, with recurved or revolute margins. Ovary 5-celled or rarely 4- or 3-celled.*

Spikes cylindrical, rather dense. Leaves oblong or lanceolate, finely veined. Ovary 5- or rarely 4-celled.

Leaves mostly $\frac{1}{2}$ to 1 in. long. Fruit ovoid-globose

6. *L. Richei*.

Leaves mostly 1 to 2 in. long. Fruit depressed-globose

7. *L. australis*.

Spikes short and dense (except *L. distans*).

Leaves oblong-linear or lanceolate ($\frac{1}{4}$ to $\frac{1}{2}$ in. long), erect or spreading. Ovary 5-celled.

Leaves tapering into a rigid almost pungent point

8. *L. capitellatus*.

Leaves obtuse or with a small callous point.

Sepals obtuse, 1 to $1\frac{1}{2}$ line long. Anthers attached above the middle, with prominent sterile tips

9. *L. revolutus*.

Sepals acute, 2 to 3 lines long. Anthers attached at or below the middle, tapering and recurved at the end, but 2-valved to the tip

10. *L. atherolepis*.

Leaves small (under $\frac{1}{2}$ in.), very convex, very spreading or reflexed.

Ovary 5-celled.

Spikes short and dense. Flowers under 2 lines long.

Leaves mostly ovate and 1 line to lanceolate and 2 lines long

11. *L. reflexus*.

Leaves mostly narrow-linear, 2 to 3 lines long

12. *L. corifolius*.

Spikes interrupted or rarely dense. Flowers above 2 lines long

13. *L. distans*.

Ovary 3- or rarely 4-celled.

Leaves orbicular, about 1 line diameter. Western species

14. *L. gibbosus*.

Leaves oblong or lanceolate, hirsute, 2 to 4 or 5 lines long.

Eastern species

15. *L. thymifolius*.

Leaves small (under $\frac{1}{2}$ in.), spreading nearly flat.

Leaves scarcely petiolate, ovate-cordate lanceolate or linear.

Ovary usually 5-celled

16. *L. cordatus*.

Leaves on long petioles, orbicular. Ovary usually 4-celled

17. *L. Bossiæ*.

SERIES III. **Collinæ**.—*Spikes all terminal or also in the uppermost axils, short and dense, or cylindrical and rather dense. Leaves flat or convex with recurved or revolute or thickened margins. Ovary 2-celled.*

Spikes short, dense or few-flowered. Bracts small.

Leaves oblong or linear, obtuse or with a callous point (mostly 3 to 6 lines).

Trailing or procumbent and hirsute. Flowers very small

18. *L. hirsutus*.

Erect or diffuse and much branched.

- Sepals obtuse 19. *L. collinus*.
 Sepals acuminate 21. *L. compactus*.
 Leaves (3 to 4 lines) linear-lanceolate, acuminate, twisted . . . 20. *L. glacialis*.
 Leaves mostly broad and scarcely exceeding 2 lines, occasionally linear and 3 lines long in the first 2 species.
 Leaves, at least the upper ones, mucronate-acute and squarrose.
 Sepals acute 22. *L. squarrosus*.
 Leaves all obtuse. Lower bracts leaf-like.
 Sepals narrow-acuminate. Corolla shortly exceeding the calyx. Eastern species 23. *L. microphyllus*.
 Sepals rather obtuse. Corolla twice as long as the calyx. Western species 24. *L. tetragonus*.
 Spikes cylindrical. Bracts, at least the lower ones, leaf-like.
 Leaves very spreading or reflexed.
 Leaves orbicular-cordate, obtuse, 3 lines diameter 25. *L. phyllostachys*.
 Leaves cordate, acuminate, not 2 lines broad 26. *L. glabellus*.
 Leaves erect or spreading, ovate and 1 line to lanceolate and 3 lines long, not cordate, nearly flat 27. *L. elatior*.

SERIES IV. **Striatæ**.—*Spikes all terminal or also in the upper axils, short and dense, or cylindrical and rather dense. Leaves nearly flat, the margins neither thickened nor recurved, usually small and obtuse, either strongly ribbed or the midrib prominently at the end. Ovary 2-celled.*

- Leaves ovate, very flat, about 1 line long, scarcely ribbed 28. *L. florulentus*.
 Leaves ovate or ovate-lanceolate, 2 to 3 lines long, strongly ribbed.
 Spikes short 29. *L. stratus*.
 Leaves ovate-lanceolate, 2 to 4 lines long, strongly ribbed. Spikes long. Plant softly villous 30. *L. lasiostachys*.
 Leaves oblong or oblong-lanceolate, 2 to 4 lines long, the midrib at least prominent. Spikes dense 31. *L. carinatus*.
 Leaves narrow-lanceolate. Spikes cylindrical, many-flowered . . . 37. *L. tenuis*.

SERIES V. **Oppositifoliæ**.—*Inflorescence and ovary of the Striatæ. Leaves small, erect, linear, obtuse, all opposite.*

- Leaves with thickened margins, 2-furrowed underneath 32. *L. opposens*.
 Leaves convex and smooth underneath 33. *L. oppositifolius*.

(27. *L. elatior*, 45. *L. lasiophyllus*, 57. *L. fimbriatus*, and perhaps a few other small-leaved species, have the leaves here and there opposite, especially on the sterile branches, but never all opposite as in the present series.)

SERIES VI. **Concurvæ**.—*Spikes all terminal or also in the upper axils, short and dense, or cylindrical and rather dense. Leaves more or less concave or keeled. Ovary 2-celled.*

- Leaves ovate to broadly lanceolate, under $\frac{1}{4}$ in. long.
 Leaves sessile. Spikes cylindrical, many-flowered.
 Leaves acuminate and exceeding 1 line or obtuse and under 1 line. Bractcoles small, acuminate 34. *L. tamariscinus*.
 Leaves obtuse, ciliate with fine hairs. Bractcoles acute, nearly as long as the calyx 35. *L. bracteolaris*.
 Leaves shortly petiolate. Spikes short and few-flowered. Bractcoles small, obtuse 36. *L. elegans*.
 Leaves lanceolate, mostly 4 to 6 lines long.
 Spikes all terminal, cylindrical, elongated. Leaves rather narrow 37. *L. tenuis*.
 Spikes all terminal, short and dense. Leaves rather broad, imbricate, obtuse 38. *L. gnaphalioides*.
 Spikes terminal and in the upper axils, short and dense but many-flowered. Leaves distant.

- Leaves broadly lanceolate. Eastern species 39. *L. concurrens*.
 Leaves narrow lanceolate. Western species 40. *L. Gilbertii*.
 Leaves linear-lanceolate or linear, mostly under 4 lines long.
 Leaves (usually glabrous) linear-lanceolate, 2 to 4 lines long,
 almost acute. Sepals acute 41. *L. gracilis*.
 Leaves linear-lanceolate, 2 to 4 lines long, tapering into a fine
 point. Sepals very acute.
 Corolla longer than the calyx. Plant hairy 42. *L. acicularis*.
 Corolla shorter than the calyx. Foliage glabrous 43. *L. cryptanthus*.
 Leaves (usually glabrous) linear, obtuse, keeled, 1 to 2 lines
 long. Sepals obtuse 44. *L. gracillimus*.
 Leaves (usually hairy) linear-lanceolate, 2 to 3, rarely 4 lines
 long, tapering as well as the bracteoles and sepals into obtuse,
 convolute points 45. *L. lasiophyllus*.
 Leaves (glabrous or hairy) about 2 lines long, very acute. Sepals
 very acute. Ovary surrounded by a ring of hairs 46. *L. cymbiformis*.

SERIES VII. *Virgatæ*.—Leaves erect, concave. Ovary 5- or 3-celled (or exceptionally 4-celled). Western species except *L. virgatus*.

- Spikes rather loose, oblong or cylindrical. Leaves (mostly $\frac{1}{2}$ in.)
 tapering to a point, finely veined.
 Leaves oblong-lanceolate or elliptical, with a rigid point. Ovary
 5-celled 47. *L. apiculatus*.
 Leaves linear-lanceolate, with a very short, callous point. Ovary
 usually 3-celled 48. *L. polystachyus*.
 Spikes short and dense.
 Leaves (under $\frac{1}{2}$ in.) tapering into a rigid point, finely veined.
 Eastern species 49. *L. virgatus*.
 Leaves (2 to 3 lines) linear, obtuse, keeled or obscurely veined . 50. *L. pulchellus*.
 Leaves ovate-lanceolate to linear-lanceolate or oblong-obtuse,
 strongly veined.
 Ovary glabrous, usually 5-celled.
 Leaves mostly narrow, scattered, $\frac{1}{4}$ in. long or under. . . 51. *L. polymorphus*.
 Leaves crowded, thick, rather broad, $\frac{1}{4}$ to $\frac{1}{2}$ in. long . . 52. *L. assimilis*.
 Ovary densely setose, 3-celled. Leaves 2 to 4 lines . . . 53. *L. Oldfieldii*.
 Leaves short, the larger ones very concave, and embracing the
 stem below the middle, spreading upwards. Ovary 5-celled.
 Leaves mostly 2 to 3 lines long 54. *L. cucullatus*.
 Leaves mostly 1 to $1\frac{1}{2}$ lines long 55. *L. sprengelioides*.
 Leaves very small. Ovary 3-celled.
 Leaves (about 1 line) more or less spreading at least at the
 end 56. *L. obtusatus*.
 Leaves closely appressed to the end.
 Ovary glabrous. Leaves about 1 line long, slightly striate . 57. *L. fimbriatus*.
 Ovary densely hirsute. Leaves 1 to 2 lines long, strongly
 striate 58. *L. ozothamnoides*.

SECT. II. *Heteranthesis*.—Spikes or clusters terminal, and sometimes also in the uppermost axils. Anthers obtuse or emarginate (in *L. atherolepis* attenuate towards the end) without sterile tips.

- Leaves linear, mucronate, with revolute margins. Flowers large.
 Anthers attached below the middle, tapering to the end . . . 10. *L. atherolepis*.
 Leaves obtuse, flat or slightly convex. Anthers attached above the
 middle, and not tapering.
 Ovary 2-celled.
 Pubescent. Spikes terminal, capitate. Sepals with long,
 plumose points 59. *L. plumuliflorus*.

Glabrous. Spikes loose, with few pendulous flowers, terminal and in the upper axils. Sepals acute, glabrous 60. *L. unilateralis*.

Ovary 5-celled.

Leaves shortly petiolate, rather thin, several-nerved.

Leaves glaucous and striate underneath 61. *L. Hookeri*.

Leaves green, and shining on both sides 62. *L. Macraei*.

Leaves on long petioles, small, thick, with 2 furrows underneath 63. *L. pleurandroides*.

Ovary 4-celled. Leaves distinctly petiolate, small, orbicular . 17. *L. Bossicea*.

Leaves linear, tapering into a pungent point.

Leaves oblong-linear. Flowers sessile within the subtending bract. Ovary 5-celled 64. *L. melaleucoides*.

Leaves narrow-linear. Flowers pedicellate within the bract and bracteoles.

Leaves with revolute margins. Corolla-tube shortly exserted.

Ovary 5- to 7-celled 65. *L. pluriloculatus*.

Leaves concave. Corolla-tube twice as long as the calyx, the exserted part campanulate. Ovary 7- to 10-celled . . . 66. *L. pleiospermus*.

Leaves with thickened margins and midrib. Corolla-tube cylindrical, 3 or 4 times as long as the calyx. Ovary 3-celled 67. *L. rubicundus*.

Leaves lanceolate-linear. Flowers sessile. Corolla shorter than the calyx. Ovary 2-celled. Small, slender plant 43. *L. cryptanthus*.

SECT. III. **Pleuranthus**.—*Spikes all axillary, few-flowered or reduced to a single flower besides the rudiment, the common peduncle very short or rarely as long as the leaves. Anthers obtuse or emarginate, without sterile tips. Style usually slender and elongated, rarely very short.*

SERIES I. **Confertæ**.—*Leaves small (1 to 2 lines), with recurved margins. Flowers mostly solitary besides the rudiment, and nearly sessile, often forming dense leafy spikes. Ovary 5-celled. Eastern species.*

Sepals obtuse 68. *L. attenuatus*.

Sepals acute 69. *L. confertus*.

SERIES II. **Ericoidæ**.—*Leaves narrow or rarely ovate, $\frac{1}{2}$ to 1 in. (except *L. concinnus*), with recurved or revolute margins. Flowers 2 or more together, in sessile or shortly pedunculate clusters. Ovary 5- or 3-celled.*

Corolla-tube not exceeding the calyx. Flowers erect, at least at first.

Leaves (under $\frac{1}{2}$ in.) obtuse, or with a small, callous point.

Eastern species 70. *L. muticus*.

Leaves (under $\frac{1}{2}$ in.) very shortly mucronate. Sepals under 1 line. Eastern species 71. *L. ericoides*.

Leaves (about $\frac{1}{2}$ in.) very shortly mucronate. Sepals about 2 lines. Western species 72. *L. brevicuspis*.

Leaves ($\frac{1}{2}$ to 1 in.) rigidly mucronate-acute. Sepals $1\frac{1}{2}$ line, very acute. Western species 73. *L. propinquus*.

Leaves (under $\frac{1}{2}$ in.) very spreading, rigidly mucronate. Sepals at least 1 line, obtuse. Western species 74. *L. insularis*.

Corolla-tube much longer than the small calyx. Flowers erect or pendulous. Western species.

Leaves ovate-lanceolate 75. *L. Allittii*.

Leaves oblong-linear 76. *L. racemosus*.

Corolla-tube not exceeding the calyx. Flowers pendulous from the first. Fruit oblong.

Leaves oblong-linear, erect or spreading (2 to 4 lines). Ovary usually 5-celled 77. *L. pendulus*.

Leaves ovate or oblong, very spreading or reflexed (1 to 2 lines).

Ovary usually 3-celled 78. *L. concinnus*.

SERIES III. *Micranthæ*.—*Leaves oblong or lanceolate, nearly flat (or with recurved margins). Ovary 2-celled. Flowers small and nearly sessile.*

Leaves scattered, not mucronate, with recurved margins.

Leaves oblong-linear, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Eastern species . . . 79. *L. margarodes*.

Leaves ovate or oblong, 1 to 2 lines long. Western species . . 78. *L. concinnus*.

Leaves imbricate, flat or slightly concave.

Leaves obtuse (under $\frac{1}{2}$ in.). Flowers solitary. No bracts besides the bracteoles 80. *L. flavesces*.

Leaves tapering into a short, fine point (3 to 4 lines). Hypogynous scales fringed with long hairs 81. *L. blepharolepis*.

Leaves tapering into a fine point ($\frac{1}{2}$ in. or more). No hypogynous disk or scales 82. *L. esquamatus*.

SERIES IV. *Planifoliæ*.—*Leaves flat or slightly convex or concave, rigid, usually shining above, the veins fine or inconspicuous. Ovary 5-celled.*

Corolla-tube shorter than the calyx.

Leaves obtuse or with a callous point. Flowers nearly sessile.

Southern or western species.

Leaves sessile, orbicular-cordate, very spreading, often convex . . . 83. *L. cordifolius*.

Leaves petiolate, obovate-cuneate or orbicular, often slightly concave 84. *L. rotundifolius*.

Leaves oblong or oblanceolate, nearly sessile, sometimes slightly convex 85. *L. planifolius*.

Leaves rigidly mucronate. Flowers nearly sessile or on a short peduncle, erect or at length spreading. North-eastern species.

Leaves obovate to oblong, often imbricate, with a very short point. Flowers about 2 lines long 86. *L. ruscifolius*.

Leaves obovate-oblong, imbricate, with a long, rigid point. Flowers about 3 lines long 87. *L. imbricatus*.

Leaves narrow-oblong, abruptly contracted into a long, rigid point. Flowers about 2 lines long 88. *L. cuspidatus*.

Leaves oblong-linear or lanceolate, tapering into a short, almost callous point. Flowers about 2 lines long . . . 89. *L. leptospermoides*.

Leaves linear-lanceolate, tapering into a fine point. Leaves not twisted 90. *L. acuminatus*.

Leaves much twisted 91. *L. flexifolius*.

Leaves narrow, rigidly mucronate. Flowers pendulous. Eastern species.

Flowers nearly sessile. Sepals rather acute 92. *L. biflorus*.

Flowers distinctly pedunculate. Sepals very acute.

Corolla glabrous outside 93. *L. setiger*.

Corolla pubescent outside 94. *L. exolasius*.

Corolla-tube shortly or scarcely exceeding the calyx. Leaves mucronate, the margins often recurved. Flowers erect.

Glabrous or minutely pubescent. Diffuse or prostrate shrub . . 95. *L. Fraseri*.

Stern and foliage hirsute 96. *L. hirtellus*.

Corolla-tube considerably longer than the calyx.

Flowers pendulous in pairs. Leaves very shortly mucronate.

Leaves very spreading or reflexed, convex, 2 to 3 lines long. Flowers under 3 lines 97. *L. ovalifolius*.

Leaves erect or spreading, flat, 3 to 6 lines long. Flowers above 4 lines 98. *L. orycedrus*.

Flowers erect.

- Leaves obovate or cuneate, obtuse or with a minute, callous point 99. *L. cuneifolius*.
 Leaves oblong-lanceolate, with a rigid point.
 Sepals (about 1 line) less than half the corolla-tube.
 Western species 100. *L. strictus*.
 Sepals (about 2 lines) more than half the corolla-tube.
 Eastern species 101. *L. Mitchellii*.
 Leaves linear, with a fine rigid point. Sepals very small.
 Corolla long and slender. Eastern species 102. *L. juniperinus*.

SERIES V. **Concavæ.**—*Leaves concave or keeled.*

Leaves rigidly mucronate.

Ovary 3- or 2-celled. Leaves lanceolate.

Leaves tapering into a long, rigid point.

Flowers erect, 3 to 4 lines long. Leaves broad or narrow.

Eastern species 103. *L. rufus*.

Flowers pendulous, nearly 3 lines. Leaves rather narrow.

Western species 104. *L. conostephioides*.

Leaves narrow, very shortly pointed. Flowers erect, not 2

lines long. Eastern species 105. *L. deformis*.

(*Astroloma xerophyllum* is in technical characters very near *L. conostephioides*, but with much larger flowers, a 5-celled ovary, etc.)

Ovary 5-celled.

Leaves ovate or ovate-lanceolate, strongly striate, 2 to 3 lines long. Corolla with the long dense white beards of

Perojia 106. *L. pogonocalyx*.

Leaves finely veined or veinless. Corolla beards short, and not very white.

Leaves narrow (2 to 4 lines), shortly mucronate.

Flowers about 2 lines long; leaves not keeled, finely veined underneath 107. *L. breviflorus*.

Flowers about 1½ lines long. Leaves keeled but scarcely veined 108. *L. durus*.

Leaves lanceolate or linear (about ½ in.), tapering into a pungent point 109. *L. multiflorus*.

Leaves (2 to 4 lines) rather broad and very concave. Eastern species.

Sepals 1 line long, obtuse. Corolla very little longer . 110. *L. appressus*.

Sepals nearly 2 lines, very acute. Corolla 3 to 4 lines long 111. *L. neoanglicus*.

Leaves as broad as long, very obtuse or minutely mucronate, very concave, and embracing the stem.

Leaves sessile, cordate, imbricate, 4 to 6 lines diameter, concealing the flowers 112. *L. obtectus*.

Leaves sessile but narrowed at the base, cucullate, 1 to 1½ lines diameter. Flowers 3 lines long 113. *L. crassiflorus*.

Leaves petiolate, obovate-orbicular, 1 to 2 lines diameter. Flowers about 2 lines long 114. *L. stronglylophyllum*.

Leaves oblong or almost ovate, obtuse or with a minute, callous point.

Leaves 2 to 4 lines long. Corolla 1½ lines, the tube as long as the calyx. Fruit erect 115. *L. crassifolius*.

Leaves 2 to 4 lines long. Corolla 2 lines, the tube very short, the lobes scarcely exceeding the calyx. Fruit erect . . . 116. *L. corynocarpus*.

Leaves 1 to 2 lines long. Corolla 2 lines, the tube equal to the calyx, the lobes erect and connivent at the base. Fruit pendulous 117. *L. Woodsii*.

Leaves 2 to 3 lines long. Corolla 3 lines, the slender tube at least twice as long as the calyx 118. *L. leptanthus*.

SECT. I. PEROJOA.—Inflorescence chiefly or entirely terminal, rarely all axillary, and then the spikes long, slender, and interrupted. Anthers with sterile tips, which are either conspicuous and pale coloured or sometimes very small and recurved. Style very short.

SERIES 1. PSILOSTACHYÆ.—Spikes slender, interrupted, axillary or terminal, usually as long as the leaves. Leaves flat or convex.

1. **L. verticillatus**, *R. Br. Prod.* 541. A tall, erect shrub, quite glabrous. Leaves mostly crowded at the end of each year's shoot, so as to appear verticillate, broadly lanceolate, mostly 2 to 4 in. long, rarely only 1 in. and sometimes 5 or even 6 in., obtuse or with a callous or almost acute but not pungent point, flat or convex, with the margins recurved, the veins fine. Spikes slender, with small, distant, reddish flowers, axillary or below the leaves and usually as long as them. Bracts and bracteoles broad, not half so long as the calyx. Sepals obtuse, not quite a line long. Corolla-tube twice as long as the calyx; lobes half as long as the tube, bearded in the lower half only. Anthers linear, attached about the middle, the upper end forming a clavate, sterile tip, but of the same colour as the rest. Hypogynous disk truncate. Ovary 5- or rarely 4-celled. Style short. Fruit ovoid-oblong, 2 to $2\frac{1}{2}$ lines long, with a hard endocarp.—*DC. Prod.* vii. 745; *Sond. in Pl. Preiss.* i. 307; *F. Muell. Fragm.* iv. 122; *Styphelia verticillata*, Spreng. *Syst.* i. 656; *F. Muell. Fragm.* vi. 43; *Lissanthe verticillata*, Lindl. *Swan Riv. App.* 25; *Leucopogon glaucescens*, *DC. Prod.* vii. 745.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *A. Cunningham*, *Preiss.* n. 431, *Maxwell*, *F. Mueller*; *Gordon*, *Harvey*, and *Tone rivers*, *Oldfield*, *Swan River* (?), *Drummond*, *1st Coll.*, *2nd Coll.* n. 266.

2. **L. interruptus**, *R. Br. Prod.* 541. A glabrous shrub, with erect branches. Leaves mostly crowded at the end of each year's shoot, so as to appear verticillate, from almost oval to oblong-elliptical, obtuse or with a minute callous point, flat or nearly so, finely nerved, from $\frac{3}{4}$ to 1 in. long or rarely rather more. Spikes slender and interrupted, but not exceeding the leaves, solitary or 2 or 3 together at the ends of the branches. Flowers small, rather numerous. Bracts and bracteoles broad, not half so long as the calyx. Sepals obtuse, under 1 line long. Corolla-tube rather shorter than the calyx; lobes as long as the tube, bearded to the end. Anthers inserted below the linear, sterile tips. Hypogynous disk truncate. Ovary 5-celled; style short. *DC. Prod.* vii. 745; *Styphelia interrupta*, Spreng. *Syst.* i. 656.

W. Australia. Goose Island Bay, *R. Brown*; King George's Sound, or to the eastward, *Baxter*.

3. **L. amplexicaulis**, *R. Br. Prod.* 543. An erect shrub, with long, straggling branches, hirsute with long soft hairs or nearly glabrous. Leaves sessile and clasping the stem with rounded auricles, spreading, cordate-ovate, acute, convex or with recurved margins, ciliate, striate on both sides, $\frac{1}{2}$ to 1 in. long. Spikes slender, interrupted, terminal and in the upper axis, longer than the leaves. Bracts lanceolate, leaf-like and nearly as long as the flowers, or the upper ones or nearly all small and subulate; bracteoles ovate, acuminate, about half as long as the calyx. Sepals acutely acuminate, about 1 line

long. Corolla-tube much shorter than the calyx; lobes twice as long as the tube. Anthers attached below the rather long, sterile tips. Hypogynous disk very short, truncate. Ovary 2-celled, tapering into a short style. Fruit ovate, rather longer than the calyx.—DC. Prod. vii. 745; *Styphelia amplexicaulis*, Rudge in Trans. Linn. Soc. viii. 292. t. 8; F. Muell. Fragm. vi. 44.

N. S. Wales. Port Jackson, *R. Brown, Sieber, n. 92*, and many others.

4. **L. alternifolius**, *R. Br. Prod.* 543. A little glabrous shrub, with very slender, often filiform, ascending or erect stems, of 6 in. to 1 ft. Leaves sessile and clasping the stem with rounded auricles, spreading, broadly cordate-ovate, obtuse or with a small callous point, flat or slightly convex, rarely above 2 lines and often not above 1 line long. Spikes in the upper axils slender, interrupted, rather longer than the leaves. Bracts scarcely above $\frac{1}{2}$ line long; bracteoles still smaller, sepals about $\frac{2}{3}$ line, all rather acute. Corolla not seen. Fruit ovate, obtuse, 2-celled, rather longer than the calyx.—DC. Prod. vii. 748; *Styphelia alternifolia*, Spreng. Syst. i. 655.

W. Australia. Heaths about W. Cape Howe, *R. Brown*. This elegant little species, which I have not seen in any other collection, is like a miniature *L. amplexicaulis*.

5. **L. lanceolatus**, *R. Br. Prod.* 541. Usually a tall shrub or small tree, quite glabrous, but some varieties low and diffuse and others pubescent, the branchlets rather slender. Leaves erect or spreading, lanceolate, tapering at both ends, obtuse or with a callous point, flat, with fine nerves, in some specimens rarely exceeding 1 in., in others attaining 2 in. Spikes slender, interrupted, solitary in the upper axils or clustered at the ends of the branches, often exceeding the leaves. Bracts and bracteoles striate, fully half as long as the calyx. Sepals scarcely 1 line long, usually obtuse, but narrower than in *L. australis*, and sometimes almost acute. Corolla-tube not exceeding the calyx; lobes as long as the tube. Anthers attached immediately under the prominent sterile tips. Hypogynous disk truncate, readily separating into distinct scales. Ovary 2-celled, tapering into the rather short style. Fruit ovate-globose, red, shortly exceeding the calyx.—DC. Prod. vii. 744; F. Muell. Fragm. iv. 124; Sweet, Fl. Austral. t. 47; Bot. Mag. t. 3162; *Styphelia lanceolata*, Sm. Bot. N. Holl. 49 (partly); F. Muell. Fragm. vi. 43; *L. australis*, Sieb. Pl. Exsicc. (not of R. Br.); *L. Cunninghamii*, DC. Prod. vii. 745; *L. affinis*, R. Br. Prod. 541; DC. Prod. vii. 745; *Styphelia affinis*, Spreng. Syst. i. 658.

Queensland. Stralbrooke Island, *A. Cunningham*; Port Macquarie, *Buckhouse*; Moreton Bay, *Fitzalan*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, Sieber, n. 103, Fl. Mixt. n. 490, 496*, and many others; northward to Hastings and Murrumbidgee rivers, *Buckley*; New England, *C. Stuart, Leichhardt*; Mount Lindley, *H. Hall*. Outward to Illawarra, *A. Cunningham*; Twofold Bay, *F. Mueller*; Gabo Island, *Maplestone*.

Victoria. Snowy River and Mitta-Mitta, *F. Mueller*.

Tasmania. Port Dalrymple, *R. Brown*. These specimens, upon which R. Brown founded his *L. affinis*, have certainly the flat leaves, the 2-folocular, compressed fruit, and other characters of *L. lanceolatus*.

Var. *gracilis*. Branchlets very slender, more or less pubescent. Leaves and flowers small.—*L. pimbleoides*, *A. Cunn.*; DC. Prod. vii. 744. To this variety belong all, or nearly all, the Queensland specimens.

Var. *gelidus*, F. Muell. Low and bushy. Leaves small and crowded. Spikes shorter, with the flowers less distant.—Barkly Range, Mount Baw-Baw, sources of the Yarra, Cobberas Mountains, etc., at an elevation of 3000 to 5000 ft., F. Mueller.

Var. *† alpestris*, F. Muell. in Herb. Hook. Like the var. *gelidus*, but leaves more rigid and acute, with more prominent nerves. Ovary sometimes 3-celled, though usually 2-celled, as in the other forms.—*L. neurophyllus*, F. Muell. Fragn. i. 37, referred doubtfully to *L. australis* in F. Muell. Fragn. iv. 123. Summit of Mount William, in the Grampians, F. Mueller.

SERIES 2. AUSTRALIS.—Spikes all terminal or also in the upper axils, short and dense or cylindrical and rather dense (interrupted in *L. distans*). Leaves nearly flat or convex, with recurved or revolute margins (not concave). Ovary 5-celled, rarely 4- or 3-celled.

6. **L. Richei**, R. Br. *Prod.* 541, and in *Bot. Mag. t.* 3251. A tall shrub or small tree, quite glabrous or the branches slightly pubescent. Leaves oblong lanceolate or oblanceolate, obtuse or with a small callous point, slightly convex or with recurved margins, finely veined, rarely exceeding 1 in. and often all under $\frac{3}{4}$ in. long. Spikes terminal and in the upper axils, cylindrical, often rather long but dense. Bracts and bracteoles striate, about half as long as the calyx. Sepals scarcely 1 line long, obtuse. Corolla-tube rather shorter than the calyx; lobes as long as the tube. Anthers attached above the middle, with more or less prominent sterile tips. Hypogynous disk 5-lobed. Ovary 5- or 4-celled. Style short. Fruit white, ovoid-globose.—DC. *Prod.* vii. 744; Sond. in Pl. Preiss. i. 305; Hook. f. Fl. Tasm. i. 249; F. Muell. Fragn. iv. 123; *Styphelia Richei*, Labill. Pl. N. Holl. i. 44. t. 60; F. Muell. Fragn. vi. 42; *Styphelia parviflora*, Andr. Bot. Rep. t. 287; *Leucopogon parviflorus*, Lindl. Bot. Reg. t. 1560; DC. *Prod.* vii. 745; Sond. in Pl. Preiss. i. 305; *Styphelia gnidium*, Vent. Jard. Malm. t. 23; *Leucopogon polystachyus*, Lodd. Bot. Cab. t. 1436, not of R. Br.; *L. lanceolatus*, Sieb. Pl. Exs., not of R. Br.

Queensland. Moreton Island, F. Mueller.

N. S. Wales. Seashore, Port Jackson, R. Brown, Sieber, n. 102, and others; Gabo Island, Maplestone; Hastings river, Beckler.

Victoria. Port Phillip, R. Brown; sand and rocky seacoasts, common, F. Mueller and others.

Tasmania. Islands of Bass's Straits and Storm Bay Passage, R. Brown; abundant on sand-hills on all the coasts, J. D. Hooker.

S. Australia. Along the coast, St. Vincent's and Spencer's Gulfs and Kangaroo Island, F. Mueller.

W. Australia. King George's Sound, R. Brown and others, and thence to the eastward, Maxwell, and to Vasse and Swan rivers, Drummond, 1st Coll. n. 161, Preiss, n. 365, 370, 372, and others.

Var. *† acutifolius*. Leaves lanceolate, very acute.—Stirling range, F. Mueller.

The species is also on Chatham Island.

7. **L. australis**, R. Br. *Prod.* 541. A tall, bushy shrub, with erect, glabrous branches, very closely allied to *L. Richei*, differing chiefly in the longer leaves, rather longer spikes, and in the fruit. Leaves lanceolate, obtuse or with a callous point, mostly 1 to 2 in. long and the lower ones sometimes 3 in., convex or with recurved margins, finely veined. Spikes cylindrical, rather dense, but not so much so as in *L. Richei*. Bracteoles about half as

long as the calyx. Sepals about 1 line long, obtuse and rather broad. Corolla-tube not exceeding the calyx; lobes as long as the tube. Anthers attached above the middle, with more or less prominent sterile tips. Hypogynous disk lobed. Ovary short, 5-celled, abruptly contracted into a short style. Drupe depressed-globular, yellow or white.—DC. Prod. vii. 744; Hook. f. Fl. Tasn. i. 219; F. Muell. Fragm. iv. 123; *Styphelia australis*, F. Muell. Fragm. vi. 43; *Leucopogon Drummondii*, DC. Prod. vii. 745; Sond. in Pl. Preiss. i. 306; *L. paniculatus*, Sond. l. c.

Victoria. In moist heaths, and wet rocks, open woods, valleys, and shallow marshes, always far from the sea, Bunip Creek, Corner Inlet, etc., *F. Mueller*.

Tasmania. Port Dalrymple, *R. Brown*; in poor soil, generally near the sea, *J. D. Hooker*.

S. Australia. Lofty Ranges, Rivoli Bay, *F. Mueller*.

W. Australia. King George's Sound, *R. Brown*, *Preiss*, n. 367; near the sea and Tone river, *Oldfield*; Swan River, *Drummond*, 1st Coll., *Preiss*, n. 368.

8. ***L. capitellatus***, DC. Prod. vii. 747. An erect shrub, of 2 to 3 ft., glabrous or the branches slightly hirsute. Leaves linear or linear-lanceolate, tapering into a short, fine, almost pungent point, rigid, convex or with slightly recurved margins, about $\frac{1}{2}$ in. long or rather more. Spikes short, dense, terminal or in the uppermost axils, or on short, axillary, leafy branchlets. Bracts short, obtuse, striate; bracteoles very obtuse, not half so long as the calyx. Sepals broad, obtuse, ciliolate, scarcely 1 line long. Corolla nearly 2 lines, the lobes longer than the tube. Anthers attached above the middle, with short, sterile tips. Disk truncate or sinuate-lobed. Ovary short, broad, 5-celled; style very short.—Sond. in Pl. Preiss. i. 311; *Styphelia capitellata*, F. Muell. Fragm. vi. 31.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 462, *Oldfield*; Mahogany Creek, *Preiss*, n. 371; Gordon and Salt rivers, *Maxwell*.

The var. *sparsiflorus*, Sond. l. c., from St. Ronan's Well, *Preiss*, n. 427, is an old fruiting state, with a few of the remains of inflorescence, apparently (but not really) axillary from the growth of the lateral shoot.

9. ***L. revolutus***, R. Br. Prod. 542. An erect, bushy or rarely straggling shrub, attaining several ft., glabrous or more or less pubescent. Leaves nearly sessile, linear or oblong, obtuse or with a small, callous point, convex, with recurved or more frequently revolute margins, $\frac{1}{4}$ to $\frac{1}{2}$ in. long or rarely more. Spikes dense, terminal or in the uppermost axils, usually clustered. Bracts small; bracteoles about half as long as the calyx, with a prominent midrib. Sepals obtuse, 1 to $1\frac{1}{4}$ lines long, minutely hoary-pubescent and ciliolate as well as the bracteoles, or quite glabrous. Corolla 2 to $2\frac{1}{2}$ lines long, the lobes rather longer than the tube. Anthers attached above the middle, with prominent sterile tips. Hypogynous disk truncate. Ovary broad, 5-celled; style very short. Fruit yellowish, nearly globular, scarcely exceeding the calyx.—DC. Prod. vii. 746; Sond. in Pl. Preiss. i. 310; *Styphelia revoluta*, Spreng. Syst. i. 657; *Styphelia obovata*, F. Muell. Fragm. vi. 31; *Leucopogon angustatus*, Benth. in Hueg. Enum. 77; Sond. in Pl. Preiss. i. 311; DC. Prod. viii. 748.

W. Australia. King George's Sound and Goose Island Bay, *R. Brown*; King George's Sound to Cape Riche and neighbouring districts, *A. Cunningham*, *Drummond*, 2nd

Coll. n. 250, 5th Coll. n. 315, 317, Preiss, n. 393, 394, and many others; eastward to Eyre's Relief and Cape le Grand, Maxwell.

The species is closely allied to *L. collinus*, but has the ovary 5-celled. *L. rubricaulis*, R. Br. Prod. 512; DC. Prod. vii. 746 (*Styphelia rubricaulis*, Spreng. Syst. i. 656), is a glabrous form, with rather short and broad leaves and a spreading habit, but passes very gradually into the common one. Of *L. villosus*, R. Br. l. c.; DC. l. c. (*Styphelia villosa*, Spreng. Syst. i. 657), there is but a single specimen in Brown's herbarium, which only appears to differ from the common form in being rather more pubescent, as in Sander's variety *hirsutus* of *L. angustatus*. The plate mistaken for *L. villosus* by Lindley and others are quite different. *Styphelia obovata*, Labill. Pl. N. Holl. i. 48. t. 67 (*Leucopogon obovatus*, R. Br. l. c.; DC. l. c.), is evidently figured from an abnormally broad-leaved specimen of this species, but even in that the leaves can scarcely be said to be obovate, and the name, as observed by F. Mueller, is so totally inappropriate that it is better to retain Brown's, which has, moreover, been generally adopted.

10. *L. atherolepis*, Steud. in Bull. Mosc. 1859, i. 13. An erect shrub, with virgate branches, glabrous or pubescent. Leaves linear, erect or spreading, with a small callous point, the margins closely revolute, rarely exceeding $\frac{1}{2}$ in. and mostly under that. Flowers large for the genus, in short spikes of 2 to 4, terminal or in the uppermost axils, forming usually a compact leafy head or oblong spike-like panicle. Bracts, bracteoles, and sepals rigid, acutely acuminate, minutely pubescent and striate, the sepals nearly 3 lines long and the bracteoles about 2 lines. Corolla-tube very short; lobes nearly 3 lines long. Filaments thick; anthers linear, attached about the middle, tapering to the recurved end, but obtuse and 2-valved to the end. Hypogynous disk of 5 short broad gland-like scales. Ovary 5-furrowed, 5-celled. Style short.—*L. grandiusculus* or *Styphelia grandiuscula*, F. Muell. Fragm. vi. 47.

W. Australia, Deamond, 5th Coll. n. 305 (in some sets, 306 in others). This species has the habit and very white corolla-lobes of the *Perojoa*, and in the anthers connects the sections *Perojoa* and *Heteranthesis*.

Var. *densiflorus*. Flowers rather smaller and more crowded, but much larger than in *L. revolutus*, with the acute sepals and the anthers of *L. atherolepis*.—Stirling Range, F. Mueller.

11. *L. reflexus*, R. Br. Prod. 544. An erect shrub, with slender virgate branches, our specimens glabrous or the young shoots cottony and the branchlets slightly pubescent. Leaves closely reflexed or very spreading, from ovate and under 1 line long to lanceolate and nearly 2 lines, obtuse or with a minute callous point, very convex. Spikes short and dense, terminal or in the uppermost axils. Bracts small; bracteoles acute, about half as long as the calyx. Sepals lanceolate, acute, $1\frac{1}{2}$ lines long. Corolla-tube shorter than the calyx; lobes about 1 line long. Anthers attached above the middle, with short tips. Hypogynous disk short, truncate. Ovary depressed, glandous, 5-angled, 5-celled, 5-furrowed.—DC. Prod. vii. 749; Sander in Pl. Preiss. i. 314; *Styphelia* in Sander's Syst. i. 657, not a *Leucopogon*, *S. Brownii*, Spreng. Syst. (Index) v. 683; F. Muell. Fragm. vi. 32.

W. Australia. King George's Sound and adjacent districts, R. Brown, A. Cunningham, Preiss, n. 398, and others.

12. *L. coriifolius*, Baill. Nov. Europ. Dec. 15. An erect shrub, more or less pubescent. Leaves linear or lanceolate, very spreading or reflexed,

rather acute or obtuse, with closely revolute margins, $1\frac{1}{2}$ to 3 lines long. Spikes terminal, short dense and few-flowered. Bracts obtuse, short; bracteoles half as long as the calyx, acute, pubescent. Sepals about 1 line long, rather acute, pubescent, ciliate. Corolla-tube very short; lobes twice as long as the tube. Anthers attached below the prominent sterile tips. Ovary, small, broad, 5-celled; style short.—Sond. in Pl. Preiss. i. 317.

W. Australia. Peaty soil amidst dense thickets near Albany, *Preiss. n. 349* (Herb. Sonder). This species requires farther confirmation from more perfect specimens. It may prove to be a variety of *L. reflexus*.

13. *L. distans*, *R. Br. Prod.* 544. An erect shrub of 3 or 4 ft., with slender elongated branches, glabrous or slightly hairy. Leaves ovate-cordate to ovate-lanceolate, obtuse or with a minute callous point, spreading or reflexed, very convex or with revolute margins, the nerves impressed on the upper surface, 1 to 2 lines (mostly $1\frac{1}{2}$ lines) long. Spikes terminal and in the uppermost axils, 1 to $1\frac{1}{2}$ in. long in the normal form, with distant flowers and a flexuous rachis, forming a short terminal panicle, usually hoary-pubescent. Bracts small, striate; bracteoles smooth, very broad and obtuse, not half as long as the calyx. Sepals about 2 lines long, hoary-pubescent and ciliate, rather broad but usually acute. Corolla-tube nearly as long as the calyx; lobes twice as long as the tube, the beard very long and dense. Anthers linear, attached above the middle, with prominent sterile tips. Hypogynous disk truncate, readily separating into distinct scales. Ovary 5-celled; style short. Fruit broad and flat, not exceeding the calyx. DC. *Prod.* vii. 748; Sond. in Pl. Preiss. i. 313; *Slyphelia distans*, Spreng. Syst. i. 655; F. Muell. *Fragm.* vi. 32.

W. Australia. King George's Sound and adjoining districts, *Mezies, Baxter, Preiss. n. 390, Drummond, 3rd Coll. n. 190, 5th Coll. n. 316*, and others. In some of Drummond's specimens the fruit is obovoid and much exceeding the calyx, but apparently in a monstrous state without seed.

Var. contractus. Spikes short, with the flowers near together. Sepals rather more obtuse. Anther-tips shorter.—*L. penicillatus*, Stschegl. in Bull. Mosc. 1859, i. 12.—*Drummond, 5th Coll. n. 314*. Stirling Range, *F. Mueller*.—Intermediate, as it were, between *L. distans* and *L. reflexus*, with the foliage and larger flowers of the former, but the inflorescence almost as much contracted as in the latter.

14. *L. gibbosus*, *Stschegl. in Bull. Mosc.* 1859, i. 12. An erect bushy shrub of 1 to 2 ft., the branchlets pubescent. Leaves broadly orbicular, obtuse or with a small reflexed point, very convex with recurved margins, mostly reflexed and rarely above 1 line diameter. Spikes short and dense, terminal or in the upper axils. Bracteoles thin, broad, ciliate, hirsute, more than half as long as the calyx. Sepals ciliate and hirsute, almost acute, about 1 line long. Corolla-tube very short; lobes about 1 line long. Anthers attached above the middle, with very short sterile tips. Hypogynous scales truncate, distinct or slightly cohering. Ovary in all the flowers examined 3-celled; style short.

W. Australia, Drummond, 3rd Coll. n. 74, 5th Coll. n. 310; limestone hills and sands, Point Irwin, Doubtful Island Bay, *Oboloid*; Cape Rich, *H. v. v.*; Koonung, Middle Mount Barren, Fitzgerald and Phillips rivers, *Maxwell*; Stirling Range, *F. Mueller*.

15. *L. thymifolius*, *Leach* 1838. An erect shrub, hirsute all over with

short spreading hairs. Leaves oblong or lanceolate, with a small soft recurved point and revolute margins, 2 to 4 lines long or rarely narrower and longer. Flowers in short spikes, terminal or in the upper axils. Bracts about half as long as the calyx. Sepals broadly lanceolate, acute, coloured, hirsute and ciliate, about 1 line long. Corolla-tube very short; lobes about 1 line long. Hypogynous disk truncate. Ovary broad, flat-topped, obtusely 3- or 4-angled and 3- or 4-celled; style short. Fruit obovoid, longer than the calyx, with 3 or rarely 4 broad prominent obtuse angles, and as many cells and seeds.

Victoria. Grampians, *Mitchell*; Victoria Range, *F. Mueller*. Determined at first by Lindley as a distinct species, but afterwards referred by him (*Mitch. Three Exped.*) to *L. villosus*, Br. (*L. revolutus*, var.), and united by *F. Mueller* with *L. collinus*; it is, however, intermediate between the two as to the number of carpels, and differs from both in being much more hirsute, and especially in the remarkably prominent broad angles of the ovary and fruit.

16. **L. cordatus**, *Sond. in Pl. Preiss.* i. 313. An erect bushy shrub of 3 to 4 ft., with the foliage and aspect of *L. squarrosus*, usually glabrous. Leaves ovate-lanceolate, scarcely acute, spreading or recurved, flat or convex, rigid, 1 to 2 or rarely 3 lines long. Spikes short, dense, often reduced to 1 or 2 flowers, terminal or in the uppermost axils, forming short dense leafy corymbs. Bracts leaf-like, obtuse or scarcely acute; bracteoles about half as long as the calyx. Sepals 1 line long or rather more, obtuse, not ciliate. Corolla-tube rather shorter than the calyx, marked inside about the middle with a prominent ring; lobes $1\frac{1}{2}$ lines long, the white beards remarkably long. Anthers attached above the middle, with recurved sterile tips. Hypogynous disk 5-lobed. Ovary depressed, pubescent, 5-celled. Fruit rather longer than the calyx, truncate and pubescent at the top.

W. Australia, *Preiss, n.* 388; sands, Géographe Bay, *Oldfield*.

17? **L. Bossiæa**, *F. Muell. Fragm.* vi. 47. An erect glabrous shrub attaining 3 or 4 ft. (*Marvell*). Leaves distinctly petiolate, orbicular-cordate, obtuse, flat, rigid, prominently veined, 1 to 2 lines diameter. Flowers small, few together in short dense terminal spikes. Bracts very small; bracteoles not half so long as the calyx, obtuse, striate. Sepals $\frac{3}{4}$ line long, obtuse, slightly coloured, not ciliate. Corolla nearly $1\frac{1}{2}$ lines long, the lobes as long as the tube. Anthers attached below the very short recurved sterile tips, which are sometimes scarcely conspicuous. Hypogynous disk sinuate or obtusely lobed. Ovary short, usually 4-celled, but perhaps sometimes 5-celled; style short.—*Styphelia Bossiæa*, *F. Muell.* l. c.

W. Australia. Termination granite rocks towards the Great Bight, *Marvell*. This species appears to have no immediate affinities; the comparatively long petioles are those of *L. pleuraudroides*, the flowers and inflorescence are those of some of the small-leaved species with 2-celled ovaries, but in all the flowers examined I have found 4 cells.

SERIES 3. COLLINÆ. Spikes all terminal or also in the uppermost axils, short and dense or cylindrical and rather dense. Leaves flat or convex with recurved or revolute or thickened margins. Ovary 2-celled.

18. **L. hirsutus**, *Sond. in Pl. Preiss.* i. 310. A slender procumbent or trailing shrub, the branches and foliage hirsute. Leaves spreading, scattered.

oblong, obtuse, slightly convex or with recurved margins, 2 to 4 lines long. Flowers minute, in short spikes, terminal or in the upper axils. Bracts and bracteoles obtuse, about half the length of the calyx. Sepals scarcely above $\frac{1}{2}$ line long, obtuse, ciliate. Corolla $\frac{3}{4}$ line long, the lobes as long as the tube. Anthers attached below the short hooked sterile tips. Hypogynous disk sinuate-toothed. Ovary 2-celled, but 1 ovule often already abortive at the time of flowering. Fruit compressed-globular, oblique, rugose when dry, about 1 line diameter, with a single seed.—*Styphelia hirsuta*, F. Muell. Fragm. vi. 31.

W. Australia, *Drymonium*, 1st Coll. n. 465; south-west side of Mount Clarence, *Preiss*, n. 464.

19. **L. collinus**, *R. Br. Prod.* 543. A shrub, sometimes erect and 3 to 4 ft. high with virgate branches, more rarely low and diffuse, nearly glabrous or softly pubescent. Leaves usually oblong or linear, obtuse or with a short point, from very broad and scarcely 2 lines long to narrow and $\frac{1}{2}$ in. long, the margins recurved or revolute or probably nearly flat when fresh. Spikes short and dense, terminal or in the uppermost axils or terminating short leafy axillary branches. Bracts and bracteoles small. Sepals rather broad, obtuse, about 1 line long. Corolla rarely 2 lines long, the lobes about as long as the tube. Anthers attached under the more or less prominent sterile tips. Hypogynous disk truncate. Ovary 2-celled, tapering into a very short style. Fruit very small, 1-seeded by abortion or rarely both seeds perfected.—DC. *Prod.* vii. 748; Hook. f. *Fl. Tasm.* i. 250; *Styphelia collina*, Labill. *Pl. N. Holl.* i. 47. t. 65; F. Muell. *Fragm.* vi. 45; *Leucopogon ciliatus*, A. Cunn.; DC. *Prod.* vii. 746; Hook. f. *Fl. Tasm.* i. 251. t. 75 A.

N. S. Wales (?). Mount Inlay, *L. Morton*. The specimens are very young and somewhat doubtful. The ovary appears to be that of *L. collinus*, but the sepals are more acute.

Victoria. Avon river; snowy plains, Mitta-Mitta, and Cabonga Mountains, *F. Mueller*.

Tasmania, *Labillardière*; Port Dalrymple and Derwent river, *R. Brown*; abundant throughout the island in dry gravelly places, etc., *J. D. Hooker*.

The commonest form in Tasmania is erect, shrubby, and slightly pubescent. From mountain grassy situations the specimens show a small diffuse plant with slender branches and small almost flat leaves. Cunningham's specimens of *L. ciliatus* have more the habit and longer leaves of the common form, but they are nearly flat. They answer very well to Labillardière's own specimens.

Styphelia reflexa, Rudge in *Trans. Linn. Soc.* x. 296. t. 19; DC. *Prod.* vii. 736, of which I have been unable to find the original specimen, appears, from the plate and description, to be *Leucopogon collinus*.

20. **L. glacialis**, *Lindl. in Mitch. Three Exped.* ii. 127. A small erect or diffuse shrub with pubescent branches. Leaves often crowded, erect or spreading, linear or linear-lanceolate, acuminate, ciliate-denticulate, much twisted in the dried state, 3 to 4 lines long. Spikes short, terminal and in the uppermost axils. Bracts strongly striate, and bracteoles about half as long as the calyx. Sepals about 1 line long, narrow but obtuse, ciliate. Corolla-tube very short; lobes about 1 line long. Anthers attached below the very short sterile tips. Hypogynous disk truncate or obtusely lobed. Ovary 2-celled; style very short.

Victoria. Summit of Mount William, Greyfriars, Mitchell, Willchar. Serra Range. F. Mueller; Heaths near Portland, Robertson, Allitt. This is certainly near *L. collinus*, but the acuminate twisted leaves (as in *L. flexifolius*) give it a very different aspect, and the sepals are much narrower.

21. ***L. compactus***, Stuebel in Bull. Mosc. 1859, i. 13. An erect shrub, hoary-villous all over with short hairs. Leaves oblong-linear, obtuse or with a callous point, with revolute margins, mostly under $\frac{1}{2}$ in. long. Spikes short, densely clustered, terminal and in the upper axils. Bracts and bracteoles acuminate, at least half as long as the calyx. Sepals $1\frac{1}{4}$ lines long, acuminate, ciliate with long hairs as well as the bracts. Corolla about 2 lines long, the lobes rather longer than the tube. Anthers attached below the short sterile tips. Hypogynous disk lobed, readily separating into distinct scales. Ovary 2-celled; style short.

W. Australia. Drummond, 5th Coll. n. 226. Near *L. revolutus* and *L. collinus*, but much more villous than either, and differs from the former in the ovary, from both in the bracts and sepals.

22. ***L. squarrosus***, Benth. in Hueg. Enum. 77. An erect shrub, attaining 3 or 4 ft., much branched at the top, the branchlets usually pubescent. Lower leaves often linear-lanceolate erect and 3 lines long, but the greater number and always the upper ones ovate or ovate-lanceolate, scarcely exceeding 2 lines, with spreading or recurved tips or rarely spreading from the base, all rigid, acuminate or acute, flat or convex and mostly ciliate. Spikes short dense and few-flowered, terminal or in the uppermost axils forming short leafy corymbs or clusters. Bracts leaf-like, acuminate, longer than the bracteoles; bracteoles about half as long as the calyx. Sepals about $1\frac{1}{4}$ lines long, acuminate. Corolla shortly exceeding the calyx, the tube very short. Anthers attached below the small recurved sterile tips. Hypogynous disk truncate. Ovary 2-celled; style short. —DC. Prod. vii. 750; Sond. in Pl. Preiss. i. 317; *Styphelia squarrosa*, F. Muell. Fragm. vi. 31.

W. Australia. Swan River and towards King George's Sound, Huegel, Drummond, 1st Coll. n. 463, 3rd Coll. n. 186, Preiss, n. 403, and others. Allied to *L. microphyllus*, but readily known by the acuminate squarrose leaves. *L. cordatus* has a similar aspect, but a pubescent 5-celled ovary.

23. ***L. microphyllus***, R. Br. Prod. 344. An erect or straggling shrub with rather slender often twiggy branches, more or less pubescent. Leaves ovate-oblong lanceolate or almost linear, obtuse, flat, erect or recurved, 1 to 2 lines long or sometimes all under 1 line, very rarely a few exceeding 2 lines. Spikes terminal, very short dense and few-flowered, clustered so as to form little leafy heads at the ends of the branches. Lower bracts leaf-like, acuminate; bracteoles half as long as the calyx. Sepals about 1 line long, narrow, acuminate and acute or rarely almost obtuse. Corolla under $1\frac{1}{2}$ lines long, the lobes as long as the tube. Anthers attached below the short sterile tips. Hypogynous disk truncate or shortly lobed. Ovary 2-celled, tapering into the style. Fruit small, oblong, usually 1-seeded. DC. Prod. vii. 749; *Persea microphylla*, Cav. Ic. iv. 29. t. 349; *Persea microphylla*, Pers. Syn. i. 174; *Styphelia microphylla*, Spreng. Syst. i. 356; F. Muell. Fragm. vi. 45; *Leucopogon denudatus*, Sieb.; DC. Prod. vii. 749; *Styphelia*

denudata, Spreng. Syst. Cur. Post. 67; *Leucopogon fraternus*, DC. Prod. vii. 749.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, Sieber, n.* 106, 109, *Fl. Mirt. n.* 498, and many others. The leaves are very variable in size, always larger on the main branches, and it is impossible to fix any limits so as to separate as varieties *L. denudatus* and *L. microphyllus*.

Var. *pililundus*. More hairy. Leaves narrow, often almost acute. Inflorescence and flowers precisely the same.—*L. pililundus*, A. Cunn.; DC. Prod. vii. 746.—Near Bathurst, N. S. Wales, *A. Cunningham*. De Candolle places this amongst the *Axillifloræ*, but the spikes only appear axillary from the shortness of the flowering branches, which, although axillary, are always leafy at the base.

Some specimens in the Hookerian as well as in Cunningham's Herbarium are marked "Point Possession, *Collie*," and "South Coast, *Baxter*," but I doubt much whether there is not here some error.

24. **L. tetragonus**, *Sond. in Pl. Preiss. i.* 317. An erect shrub, of 2 or 3 ft., the branches and often the leaves pubescent. Leaves crowded on the branchlets, often decussate and here and there irregularly opposite, oblong-lanceolate or almost ovate, obtuse, with recurved margins, usually ciliate with long hairs, mostly about 1 line long, or nearly 2 lines when narrow. Spikes short, dense, and few-flowered, terminal. Lower bracts leaf-like, concave, striate, longer than the bracteoles, upper ones smaller; bracteoles broad, acuminate, about half as long as the calyx. Sepals about 1 line long, lanceolate, rather obtuse, coloured, ciliate. Corolla scarcely 2 lines long, the lobes longer than the tube. Anthers attached above the middle, with very short sterile tips. Hypogynous scales distinct, obovate. Ovary 2-celled; style short.—*Styphelia tetragona*, F. Muell. Fragm. vi. 31.

W. Australia. Near Cape Riche, *Harvey, Drummond, 4th Coll. n.* 151; Koukoberup hills, *Preiss, n.* 387; Mount Bland, *Maxwell*.

25. **L. phyllostachys**, *Benth.* Erect and slightly branched, 1 to 1½ ft. high and quite glabrous. Leaves spreading or reflexed, a few of the lowest sessile, ovate or ovate-lanceolate, under 3 lines long, all the others broadly cordate-ovate or almost reniform, often above 3 lines diameter, obtuse or with a minute callous point, convex or nearly flat. Spikes cylindrical, many-flowered, terminal or in the uppermost axils, the upper broadly cordate leaves passing gradually into floral leaves or bracts similar but smaller, the uppermost scarcely above ½ line diameter and shortly acute. Bracteoles less than half as long as the calyx. Sepals about 1 line long, rather narrow, almost acute, smooth. Corolla scarcely 2 lines long, the lobes as long as the tube. Anthers attached near the top, with very small sterile tips. Hypogynous scales small, ovate, distinct or scarcely cohering. Ovary 2-celled; style short. Drupe very small, oblong, 1- or 2-seeded.—*Styphelia glabella*, F. Muell. Fragm. vi. 32, not of Spreng., nor *Leucopogon glabellus*, Br.

W. Australia, *Drummond, 5th Coll. n.* 311.

26. **L. glabellus**, *R. Br. Prod.* 544. An erect shrub, of 2 to 3 ft., with rather slender branches, and the typical form quite glabrous. Leaves spreading or somewhat reflexed, varying from cordate-ovate to lanceolate, acute, flat or convex, 1 to 2 lines long or rarely 3 lines when narrow. Spikes

many-flowered, cylindrical, terminal or terminating very short axillary branchlets, the upper leaves small and passing gradually into the lower bracts, which are like the leaves, but smaller. Bracteoles acute, not half so long as the calyx. Sepals not exceeding 1 line, rather narrow, acutely acuminate, often ciliate. Corolla about $1\frac{1}{2}$ lines long, the lobes longer than the tube. Anthers attached near the top, with small sterile tips. Hypogynous scales ovate, distinct or slightly cohering. Ovary 2-celled; style short. Drupes small, oblong, 1- or 2-seeded.—DC. Prod. vii. 749; *Styphelia glabella*, Spreng. Syst. i. 655; *Leucopogon variifolius*, Sond. in Pl. Preiss. i. 314; *Styphelia variifolia*, F. Muell. Fragm. vi. 32, but not *L. elatior*, Sond.

W. Australia. King George's Sound and adjoining districts, *R. Brown*, *Draumond*, n. 29, 5th Coll. n. 319, *Preiss*, n. 404, and others.

Var. *pubescens*. Branches, foliage, and inflorescence pubescent, in other respects precisely as in the common form.—*L. lanigerus* (originally written *L. caudigerus*), A. Cunn.; DC. Prod. vii. 749. King George's Sound or to the eastward, *Barter*.

27. **L. elatior**, *Sond. in Pl. Preiss*. i. 314. An erect shrub, attaining 3 ft., with rather slender, glabrous branches. Leaves spreading, in some specimens broadly ovate, obtuse, almost cordate at the base, rigid, flat or slightly convex, prominently ribbed, about 1 line long, occasionally but rarely opposite, in other specimens ovate and acute, and passing into ovate-lanceolate or even narrow-lanceolate and acute, and then 2 or even 3 lines long. Spikes terminal, cylindrical, rather dense, often many-flowered. Lower bracts like the leaves, but concave and gradually smaller; bracteoles about one-third as long as the calyx. Sepals scarcely above 1 line long, narrow, obtuse, slightly striate. Corolla under 2 lines long, the lobes rather longer than the tube. Anthers attached below the very short sterile tips. Hypogynous scales distinct. Ovary 2-celled; style short.—*L. decussatus*, Steuegl. in Bull. Mosc. 1859, i. 11; *L. semioppositus* or *Styphelia semiopposita*, F. Muell. Fragm. vi. 49.

W. Australia, *Draumond*, 5th Coll. n. 328; Vasse river, *Mrs. Molloy*; near Busselton, Sussex district, *Preiss*, n. 391.

SERIES 4. STRIATE.—Spikes all terminal or also in the uppermost axils, short and dense or cylindrical and rather dense. Leaves nearly flat, the margins neither thickened nor recurved, usually small and obtuse, either strongly ribbed or the midrib prominent at the end. Ovary 2-celled.

28. **L. florulentus**, *Beath*. An erect, branching shrub, our specimen quite glabrous. Leaves crowded, erect, ovate or obovate-oblong, very obtuse, thick, flat or slightly concave, sometimes slightly ciliate, with scarcely prominent veins, 1 to $1\frac{1}{3}$ lines long. Spikes solitary, dense and many-flowered, terminating the numerous branchlets. Bracts ovate, obtuse, striate; bracteoles ovate-lanceolate, not half so long as the calyx. Sepals $\frac{3}{4}$ line long, rather obtuse, whitish when dry. Corolla 1 to $1\frac{1}{2}$ lines long, the lobes about as long as the tube. Anthers attached below the very short sterile tips. Hypogynous scales distinct. Ovary 2-celled; style short.

W. Australia. Between King George's Sound and Swan River, *Harvey*. Although we have but a single specimen of this plant, it is a good one, covered with a profusion of

small flowers, and which I am unable to refer to any other species, although allied on the one hand to *L. elatior* and on the other to *L. striatus*.

29. **L. striatus**, *R. Br. Prod.* 514. A spreading, much-branched shrub, usually low, but sometimes attaining 2 ft., glabrous or with pubescent branchlets. Leaves ovate or ovate-lanceolate, obtuse, thick, strongly ribbed underneath, and sometimes the midrib especially prominent above the middle as in *L. carinatus*, mostly $1\frac{1}{2}$ to 3 lines long, flat and spreading or the upper ones erect and slightly concave, whilst the lowest are more spreading and slightly convex. Spikes dense, terminal or in the uppermost axils, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Bracts and bracteoles about half as long as the calyx. Sepals about 1 line long, obtuse as well as the bracts, rather thick and rigid. Corolla under 2 lines long, the lobes about as long as the tube. Anthers attached near the top, with very small sterile tips. Hypogynous disk readily separating into distinct scales. Ovary 2-celled, with a broad, 5-furrowed summit; style very short.—*DC. Prod.* vii. 750; *Styphelia striata*, Spreng. Syst. i. 656; *L. nervosus*, *R. Br. Prod.* 544; *DC. Prod.* vii. 750; *L. rupestris*, Sond. in *Pl. Preiss.* i. 315.

W. Australia. Lucky Bay, *R. Brown, Baxter*; Kenkoherup hills, Cape Riche, *Preiss.* n. 406 (partly); Mount Bland, *Maxwell*. *R. Brown's* specimens of his *L. striatus* and *L. nervosus* are, as observed in his 'Prodromus,' very nearly allied, and several of *Baxter's* connect them too closely to separate them as varieties.

30. **L. lasiostachyus**, *Stschegl. in Bull. Mosc.* 1859, i. 11. An erect shrub, with virgate branches, minutely but softly pubescent as well as the foliage. Leaves from ovate to lanceolate, obtuse or with a callous point, 2 to 4 or rarely 5 lines long when narrow, erect or spreading, flat or slightly concave, strongly ribbed underneath. Spikes cylindrical, dense and many-flowered, terminal and in the uppermost axils, $\frac{1}{2}$ to 1 in. long, softly pubescent or villous. Bracts lanceolate or linear; bracteoles ovate-lanceolate, acuminate, more than half as long as the calyx. Sepals lanceolate, acuminate, $1\frac{1}{2}$ lines long, softly villous as well as the bracts. Corolla-tube much shorter than the calyx; lobes twice as long as the tube. Anthers attached above the middle, with small, recurved, sterile tips. Hypogynous disk toothed, at length separable into distinct scales. Ovary 2-celled, but often broad and 5-angled at the top; style short.

W. Australia, *Drummond*, 5th Coll. n. 304; Stirling range, *F. Mueller*.

31. **L. carinatus**, *R. Br. Prod.* 545. An erect or spreading, much-branched shrub, of 1 to 2 ft., glabrous or with minutely pubescent branchlets. Leaves oval-oblong, lanceolate or almost linear, obtuse, thick and rigid, the midrib underneath prominent above the middle and sometimes almost as much ribbed as in *L. striatus*, mostly 2 to 3 lines long but in some specimens longer. Spikes short, dense, terminal or in the uppermost axils. Bracts and bracteoles scarcely half as long as the calyx, rather acute. Sepals 1 to $1\frac{1}{4}$ line long, rather rigid and acute. Corolla $1\frac{1}{2}$ to 2 lines long, the lobes longer than the tube. Anthers attached above the middle, with short, sometimes very small, recurved, sterile tips. Hypogynous scales distinct. Ovary 2-celled, the summit usually broad.—*L. tetus*, Sond. in *Pl. Preiss.* i. 318; *Styphelia carinata*, Spreng. Syst. i. 658 (partly).

W. Australia. Lucky Bay, *R. Brown, Bacter*; Koukoberup hills, Cape Riche, *Preiss*, n. 406; Mount Melville, *F. Mueller*; towards Cape Riche and round Cape Arid to Cape Paisley, *Maxwell*.

Diamond's specimens, 5th Coll. n. 325, with narrow leaves, 3 to 5 lines long, seem almost to connect this with *L. tenuis*; on the other hand, those with short, broad leaves come near to *L. striatus*. *L. ovatus*, *Sond.* in *Pl. Preiss.* i. 319, from *Preiss's* collection, n. 375, seems to be a small-leaved state of the same species, but the specimen I have seen is a mere fragment.

SERIES 5. OPPOSITIFOLIÆ.—Spikes all terminal or also in the uppermost axils, short and dense. Leaves all opposite, small, erect, linear, obtuse. Ovary 2-celled.

32. **L. opponens**, *F. Muell. Fragm.* vi. 48. An erect shrub, of about 2 ft., with slender, virgate branches, glabrous or sprinkled as well as the foliage with short, spreading hairs. Leaves distinctly petiolate, all opposite, erect, obtuse, with thickened or recurved margins, so as to be 2-furrowed underneath, mostly 2 to 3 lines long. Spikes short, dense, terminal or in the uppermost axils. Bracts broad, concave, mostly opposite, shorter than the bracteoles; bracteoles about half as long as the calyx, almost acute, keeled. Sepals $1\frac{1}{4}$ to $1\frac{1}{2}$ lines long, rather acute, scarcely coloured, minutely ciliate. Corolla scarcely 2 lines long, the lobes rather longer than the tube. Anthers attached below the short sterile tips. Hypogynous disk obtusely lobed. Ovary 2-celled; style very short.—*Styphelia opponens*, *F. Muell. l. c.*

W. Australia. Sandy places, Phillips river, *Maxwell*.

33. **L. oppositifolius**, *Sond. in Pl. Preiss.* i. 316. An erect, heath-like shrub of 1 ft. or more, with slender branches, glabrous or pubescent as well as the foliage. Leaves all opposite, erect, narrow-linear or almost linear-lanceolate, obtuse, concave and keeled, 1 to 2 lines long. Flowers in very short terminal spikes. Bracts like the leaves, but smaller, and the lower ones opposite; bracteoles narrow, obtuse, about half as long as the calyx. Sepals 1 line long, lanceolate, rather obtuse, usually coloured. Corolla about 2 lines long, the lobes as long as the tube. Anthers attached under the prominent sterile tips. Hypogynous disk truncate or lobed, and readily separating into distinct scales. Ovary small, 2-celled; style very short.—*Styphelia oppositifolia*, *F. Muell. Fragm.* vi. 32.

W. Australia. King George's Sound, *Preiss*, n. 350, 400; Stirling range, *F. Mueller*; also in *Maxwell's* collection, without the precise station. The leaves in all the specimens seen are constantly opposite, but possibly *L. lasiophyllus* may be only a variety with larger leaves mostly alternate.

SERIES 6. CONCURVÆ.—Spikes all terminal or also in the upper axils, short and dense or cylindrical and rather dense. Leaves more or less concave or keeled. Ovary 2-celled.

34. **L. tamariscinus**, *R. Br. Prod.* 544. An erect shrub of 2 to 3 ft., with virgate branches and often numerous short branchlets, glabrous or sprinkled with a few hairs. Leaves erect, ovate or lanceolate, acuminate, concave, often dilated near the base and almost embracing the stem, the larger ones on the main branches often 2 to 3 lines long, those on the smaller, slender

branchlets under 1 line, all usually turning black in drying, and the upper ones passing into the bracts. Spikes terminal, cylindrical and slender, many-flowered, $\frac{1}{2}$ to 1 in. long. Bracts like the stem-leaves, but smaller; bracteoles broad, shortly acuminate, not half so long as the calyx. Sepals under 1 line long, rather acute. Corolla $1\frac{1}{4}$ to nearly $1\frac{1}{2}$ lines long, the lobes equal to or rather longer than the tube. Anthers attached below the minute sterile tips. Hypogynous disk obtusely lobed or the scales quite distinct. Ovary 2-celled; style short.—DC. Prod. vii. 749; *Styphelia tamariscina*, Spreng. Syst. i. 656; *Leucopogon parvifolius*, DC. Prod. vii. 752; *L. vaginans*, Sond. in Pl. Preiss. i. 315.

W. Australia. King George's Sound, *R. Brown*, *A. Cunningham*, *Barter*, *Drummond*; Mount Melville, *F. Mueller*; near Cape Riche, *Harvey*; Phillips river, *Maxwell*; also from Roe's collection, *Preiss*, n. 382.

35. L. bracteolaris, Benth. An erect shrub, with glabrous or pubescent branches. Leaves erect, ovate to broadly oblanceolate, obtuse or with an obtuse callous point, concave and often embracing the stem, ciliate with fine hairs, the veins fine or the midrib more prominent at the top, mostly about 2 lines long. Spikes terminal, cylindrical, rather dense, many-flowered. Bracts leaf-like, lanceolate, ciliate, concave, as long as the flowers; bracteoles similar or more acute, almost or quite as long as the calyx. Sepals lanceolate, acute, rigid, ciliate, about 1 line long. Corolla but very little longer, the lobes rather longer than the tube. Anthers attached under the short sterile tips. Hypogynous scales small, distinct. Ovary 2-celled; style very short.

W. Australia. King George's Sound or to the eastward, *M'Lean* (or rather *Barter*?).

36. L. elegans, Sond. in Pl. Preiss. i. 318. A slender shrub, of 3 to 4 ft., the branches more or less hirsute with long, soft, spreading hairs, or rarely glabrous. Leaves ovate to lanceolate, almost acute, fringed with long, soft hairs, concave, prominently striate, 2 to 3 lines long. Spikes terminal or very rarely in the uppermost axils, short and few-flowered. Lower or nearly all the bracts leaf-like, shortly petiolate, lanceolate, nearly as long as the flowers; bracteoles broad, obtuse, about one-third as long as the calyx. Sepals obtuse or almost acute, smooth, ciliate, about 1 line long. Corolla-tube about as long as the calyx; lobes as long as the tube. Anthers attached below the rather long sterile tips. Hypogynous disk toothed. Ovary 2-celled; style exceedingly short.—*Styphelia blepharophylla*, F. Muell. Fragm. vi. 34.

W. Australia, *Drummond*, 4th Coll. n. 150, 5th Coll. n. 308; Konkeoberup Hills Cape Riche, *Preiss*, n. 378; Kalgan river, *Oldfield*; Warrieup hills, *Maxwell*.

37. L. tenuis, DC. Prod. vii. 744. A shrub, with erect, virgate, rather slender branches, usually glabrous. Leaves linear or narrow-lanceolate, obtuse or with a short, callous point, narrowed at the base but scarcely petiolate, erect, flat or slightly concave, the veins, especially the midrib towards the top, rather prominent, under $\frac{1}{2}$ in. long except when very luxuriant, the upper ones smaller, and passing into the bracts. Spikes terminal, cylin-

dricul, many-flowered. Lower or nearly all the bracts lanceolate and leaf-like, the upper ones short, broad, acuminate, and strongly ribbed; bracteoles not half so long as the calyx. Sepals $1\frac{1}{4}$ lines long, narrow, acute, smooth like the bracteoles. Corolla under 2 lines long, the lobes much longer than the tube. Anthers attached below the short, recurved, sterile tips. Hypogynous scales distinct, broadly obovate. Ovary 2-celled, with a broad top; style short. Young fruit oblong.

W. Australia. Swan River, *Drummond*, n. 25, 5th Coll. n. 325.

38. **L. gnaphalioides**, *Stschegl. in Bull. Mosc.* 1859. i. 14. A stout, erect, bushy shrub, the branches and outside of the leaves softly pubescent or villous. Leaves crowded, erect, ovate-lanceolate, obtuse, concave, rigid, prominently striate, mostly 3 to 4 lines long. Spikes short and dense, terminal or in the uppermost axils, forming dense terminal heads. Bracts and bracteoles about half as long as the calyx, obtuse, ciliate. Sepals narrow, almost acute, $1\frac{1}{2}$ to nearly 2 lines long. Corolla $2\frac{1}{2}$ lines long, the lobes as long as the tube. Anthers attached a little below the rather long sterile tips. Hypogynous disk toothed. Ovary 2-celled, short, not dilated; style very short.

W. Australia, *Drummond*, 4th Coll. n. 152, 5th Coll. n. 318.

39. **L. concurvus**, *F. Muell. Fragm.* iii. 144. A small, decumbent shrub, with the elongated wiry branches, general habit, and inflorescence of *L. virgatus*, glabrous or hirsute with long, soft, spreading hairs. Leaves ovate-lanceolate to lanceolate, acute or the lower ones obtuse, concave, the larger ones above $\frac{1}{2}$ in. long, but mostly under that. Flowers small, in short, dense spikes, terminal or in the upper axils, or the clusters appearing axillary from the shortness of the flowering branches. Bracteoles nearly half as long as the calyx. Sepals lanceolate, thin, almost acute, nearly $1\frac{1}{2}$ lines long. Corolla-tube half as long as the calyx, the lobes longer than the tube. Anthers inserted below the rather long sterile tips. Hypogynous disk very short. Ovary 2-celled; style very short. — *L. apiculatus*, Sond. in *Linnaea*, xxvi. 248, not of R. Br.; *Styphelia concurrea*, F. Muell. *Fragm.* vi. 36.

S. Australia. Encounter Bay and Onkaparinga river, *F. Mueller*.

40. **L. Gilbertii**, *Stschegl. in Bull. Mosc.* 1859. i. 15. Stems slender, erect and virgate, 1 to 2 ft. high, quite glabrous. Leaves erect, linear-lanceolate or lanceolate, tapering into a short, callous point, concave, very finely veined, the larger ones above $\frac{1}{2}$ in. long, but mostly under that. Flowers small, in short, dense spikes terminal or in the uppermost axils, or the clusters of spikes appearing axillary from the shortness of the flowering branchlets. Bracts small; bracteoles about half as long as the calyx, all obtuse, striate. Sepals $\frac{2}{3}$ line long, oblong, obtuse, coloured, ciliate. Corolla $1\frac{1}{4}$ lines long, the lobes longer than the tube. Anthers attached below the prominent sterile tips. Hypogynous disk sinuate or lobed. Ovary 2-celled, flat-topped; style very short.

W. Australia, *Drummond*, 2nd Coll. n. 263, 4th Coll. n. 134, *Gilbert*, n. 41, *Old field*; Upper Hay river, *F. Mueller*. The species is very near *L. tenuis*, but more slender, the flowers much smaller, in more compact spikes, and a different calyx. It is also near

L. gracilis, and has precisely the inflorescence of *L. concurrens*. F. Mueller (Tr. bot. vi. 32) refers it to *L. multiflorus*, Br., which, however, belongs to the section *Pleuranthus*.

41. *L. gracilis*, R. Br. *Prod.* 544. An erect or diffuse shrub of 1 to 1½ ft., with slender and wiry or rarely more rigid branches, usually glabrous. Leaves erect, linear-lanceolate, scarcely acute, concave, prominently 3- or 5-ribbed, 2 to 3 or rarely 4 lines long. Spikes short, dense, terminal, solitary or clustered. Bracts small, membranous, but not leafy; bracteoles lanceolate, obtuse, about half as long as the calyx. Sepals scarcely 1 line long, lanceolate, rather acute, minutely ciliate. Corolla about 2 lines long, the lobes as long as the tube. Anthers attached below the prominent sterile tips. Hypogynous disk usually lobed. Ovary 2-celled; style very short.—DC. *Prod.* vii. 749; Soud. in Pl. Preiss. i. 316; *Stylpelia gracilis*, Spreng. *Syst.* i. 658.

W. Australia. King George's Sound, R. Brown, A. Cunningham, *Preiss.* n. 381, 389.

42. *L. acicularis*, Benth. A small, heath-like shrub, with slender, erect branches, more or less hirsute with spreading hairs. Leaves erect, linear-lanceolate, tapering into a fine point, concave, prominently keeled or 3-nerved, 2 to 4 lines long. Flowers small, in short, dense spikes terminating the branches or the short axillary branchlets. Bracts small, green, the lower ones lanceolate, the upper ones ovate, acute. Bracteoles not half so long as the calyx, broad, ciliate, rather acute. Sepals thin, narrow, acute, under 1 line long. Corolla about 1½ lines long, the lobes as long as the tube. Anthers attached below the very short sterile tips. Hypogynous scales distinct. Ovary 2-celled; style short.

W. Australia. Fitzgerald Range, Maxwell. Although I have seen but a single specimen it is a good one, and does not agree with any species known to me.

43? *L. cryptanthus*, Benth. A slender, much-branched, apparently diffuse shrub, not exceeding 6 in., the branches pubescent. Leaves erect, linear or linear-lanceolate, tapering into a pungent point, rigid, concave, prominently ribbed, 1 to 3 lines long. Flowers few, very small and inconspicuous, in short spikes, solitary or clustered at the ends of the branches, forming little leafy cymes. Bracts similar to the leaves, and mostly exceeding the flowers; bracteoles acutely acuminate, more than half as long as the calyx. Sepals acutely acuminate, under 1 line long. Corolla rather shorter than the calyx, the lobes as long as the tube. Anthers attached by the middle, oblong, obtuse, with very minute sterile tips or sometimes none. Hypogynous disk sinuate-lobed. Ovary 2-celled; style very short.

W. Australia. Swan River, Drummond, 1st Coll. n. 12. The specimens are numerous, and all small though complete with the root, the ends of the branches generally recurved. The species should, perhaps, technically belong to the section *Heteranthus*, but the general affinities are with *Peyrou*, and the tips of the authors have sometimes appeared to me to be closed and sterile.

44. *L. gracillimus*, DC. *Prod.* vii. 747. An erect, heath-like shrub of 1 to 3 ft., glabrous or the very slender branches minutely pubescent. Leaves erect, appressed or imbricate, narrow-linear, obtuse, concave, about 1 line or on the main branches 2 lines long. Flowers small, in short, terminal

spikes. Bracts, at least the lower ones, like the stem leaves, but smaller; bracteoles very obtuse, not half so long as the calyx. Sepals about $\frac{3}{4}$ line long, obtuse. Corolla $1\frac{1}{2}$ to nearly 2 lines long, the lobes longer than the tube. Anthers inserted below the prominent sterile tips. Hypogynous disk sinuate-toothed. Ovary 2-celled (or sometimes 3-celled?); style very short.—Sond. in Pl. Preiss. i. 312; *Styphelia gracillima*, F. Muell. Fragm. vi. 34.

W. Australia. Swan River, *Drummond*, 1st Coll. n. 23; Mount Bakewell, *Preiss*, n. 395. Drummond's specimens, n. 75, are referred here by F. Mueller, but they have no flowers, and must therefore be doubtful.

45. **L. lasiophyllus**, *Stschegl.* in *Bull. Mosc.* 1859. i. 16. An erect shrub with virgate branches, our specimens under 1 ft. high, the branches and foliage pubescent, with short, rigid hairs. Leaves erect, sessile, linear or linear-lanceolate, rather obtuse, concave, prominently ribbed, 2 to 4 lines long, occasionally opposite. Flowers few, in short, dense spikes, terminal or in the uppermost axils. Bracts, at least the lower ones, like the leaves, but smaller; bracteoles acuminate, at least half as long as the calyx, and sometimes almost passing into the sepals. Sepals $1\frac{1}{4}$ to $1\frac{1}{2}$ lines long, narrow, coloured, ciliate, and pubescent, with convolute, rather obtuse tips. Corolla about 2 lines long, the lobes as long as the tube. Anthers attached below the prominent sterile tips. Hypogynous disk obtusely lobed. Ovary glabrous, 2-celled. Style very short.

W. Australia. *Drummond*, 5th Coll. n. 329; Stirling Range, *F. Mueller*. This plant is referred by F. Mueller, *Fragm.* vi. 32, to *L. oppositifolius*, from which it only appears to differ in the rather longer, more pubescent leaves, mostly alternate.

46. **L. cymbiformis**, *A. Cunn.*; *DC. Prod.* vii. 750. A bushy or wiry shrub of 1 to $1\frac{1}{2}$ ft., glabrous or the branches scarcely pubescent. Leaves erect, lanceolate or linear-lanceolate, tapering into a short, rigid point, concave, and usually keeled, 1 to 2 or rarely 3 lines long. Spikes very short, dense, and often only 2- or 3-flowered, terminal or in the uppermost axils, but sometimes becoming lateral by the elongation of a branch from one of the uppermost axils. Bracts lanceolate, acute, leaf-like; bracteoles very acute, half as long as the sepals. Sepals $1\frac{1}{4}$ to $1\frac{1}{2}$ lines long, very acute, and sometimes greenish below the points. Corolla-tube shortly exceeding the calyx; lobes shorter than the tube. Anthers attached immediately under the exceedingly short, recurved, sterile tips. Hypogynous scales ovate, obtuse, usually distinct, with a dense ring of almost chaffy hairs or bristles within them round the ovary. Ovary elongated, tapering into the scarcely distinct style, angular, 2-celled.—Sond. in Pl. Preiss. i. 318; *Styphelia cymbiformis*, F. Muell. *Fragm.* vi. 34.

W. Australia. *Drummond*, 3rd Coll. n. 182, 188, 5th Coll. n. 323; King George's Sound, *A. Cunningham*; Cape Riche, *Harvey*; Gordon river, *Preiss*, n. 395; Kalgan and Tone rivers, *Oldfield*. I have had the greatest difficulty in ascertaining the structure of the ovary. From more than a dozen different specimens I always found it diseased and black inside. In one specimen, however, it was distinctly 2-celled, but the ovules were still imperfect; and were it not for the great uniformity in specimens gathered by different collectors in different localities, I should have suspected that the frequently abnormal inflorescences, the peculiar hairs round the ovary, and the unusual form of the latter organ, had been alike the effects of disease.

SERIES 7. VIRGATÆ.—Spikes all terminal or also in the upper axils, short and dense, or cylindrical and rather loose. Leaves erect, concave. Ovary 5- or 3-celled (or exceptionally 4-celled).

47. **L. apiculatus**, *R. Br. Prod.* 542. An erect shrub of 2 to 4 ft., glabrous or softly pubescent. Leaves erect or spreading, oblong-lanceolate or almost elliptical, acute, but with a callous point, concave or nearly flat, $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Spikes terminal and in the uppermost axils, loose and longer than the leaves. Bracts narrow-lanceolate, acute; bracteoles acuminate, fully half as long as the calyx. Sepals $1\frac{1}{2}$ lines long, shortly acuminate, often coloured. Corolla-tube nearly as long as the calyx; lobes as long as the tube. Anthers linear, attached about the middle, with recurved sterile tips. Hypogynous disk sinuate-toothed, readily separable into distinct scales. Ovary depressed, 4- or 5-celled. Fruit much depressed, not exceeding the calyx.—DC. *Prod.* vii. 745; F. Muell. *Fragm.* iv. 105; *Styphelia apiculata*, Spreng. *Syst.* i. 656; F. Muell. *Fragm.* vi. 31; *L. Shuttleworthii*, Sond. in *Pl. Preiss.* i. 307.

W. Australia. Lucky Bay and Goose Island Bay, *R. Brown*; Lucky Bay?, *Baxter*; Cape le Grand and along the coast to Cape Arid, *Maxwell*. The locality, N. S. Wales, given by Sonder was owing to a mistake in the label of the specimens he examined.

48. **L. polystachyus**, *R. Br. Prod.* 542. An erect shrub, attaining several feet, with slender, virgate branches usually glabrous. Leaves linear to lanceolate, tapering into a callous point, rigid, concave, erect or scarcely spreading, 4 to 8 lines long. Spikes rather short, dense, terminal or in the uppermost axils, usually crowded into an ovoid, terminal, leafy head. Bracts small, ovate, obtuse; bracteoles about half as long as the calyx, rather obtuse. Sepals $1\frac{1}{2}$ lines long or rather more, thin, but rather rigid, and often pale pink. Corolla 2 lines long or rather more, the lobes longer than the tube. Anthers attached below the recurved sterile tips. Hypogynous disk sinuate or obtusely 5-lobed. Ovary (always?) 3-celled, although 5-angled at the base; style very short. Fruit as long as the calyx, truncate.—DC. *Prod.* vii. 746; Sond. in *Pl. Preiss.* i. 307; *Styphelia polystachya*, Spreng. *Syst.* i. 659; F. Muell. *Fragm.* vi. 31.

W. Australia. King George's Sound and neighbouring districts, *R. Brown*, *Drummond*, 3rd *Coll. n.* 189, *Preiss, n.* 363, 364, and many others.

49. **L. virgatus**, *R. Br. Prod.* 543. A low, decumbent or diffuse shrub, with ascending or erect wiry, glabrous branches of $\frac{1}{2}$ to 1 ft. or rarely more rigid and bushy. Leaves lanceolate or linear-lanceolate, tapering into a rigid but not pungent point, concave, minutely ciliate, under $\frac{1}{2}$ in. long. Spikes short, dense, terminal or in the uppermost axils, or appearing axillary from the shortness of the flowering branchlets. Bracts small; bracteoles half as long as the calyx. Sepals about 1 line long, obtuse, scarcely coloured. Corolla-tube rather shorter than the calyx; lobes longer than the tube. Anthers attached a little below the short sterile tips. Hypogynous disk truncate or obtusely lobed. Ovary broad, 5-celled; style short.—DC. *Prod.* vii. 748; Hook. f. *Fl. Tasm.* i. 249; *Styphelia virgata*, Labill. *Pl. Nov. Holl.* i. 46. t. 64; F. Muell. *Fragm.* vi. 42 (but not *L. glacialis*, Lindl.).

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 107, and others.

Victoria. Common in heathy ground and sterile regions, ascending into the mountains to an elevation of 4000 ft., *F. Mueller* and others.

Tasmania. Port Dalrymple and Derwent river, *R. Brown*; abundant in dry, gravelly or sandy places throughout the island, *J. D. Hooker*.

S. Australia. Murray Desert, Oakparinga and Torrens rivers, Lofly Range, *F. Mueller*.

Var. *brerifolius*. Leaves from ovate to lanceolate, mostly under $\frac{1}{4}$ in. long, passing sometimes into the common form on the longer branches.—Mount William in the Grampians, *F. Mueller*; Winmera, *Dallachy*.

50. ***L. pulchellus***, *Sond. in Pl. Preiss.* i. 310. An erect rather slender shrub, attaining 3 or 4 ft., the branches glabrous or pubescent. Leaves erect, linear, obtuse, rather thick, and slightly concave, obscurely ribbed underneath, glabrous or slightly hairy, mostly 2 to 3 lines long. Spikes short and dense, terminal or in the uppermost axils. Bracts leaf-like but small; bracteoles very obtuse, not half so long as the calyx. Sepals about $1\frac{1}{4}$ lines long, obtuse, rather thin, ciliate and often pubescent. Corolla 2 lines long or rather more, the tube very short, the lobes much longer. Anthers attached below the prominent sterile tips. Hypogynous disk short. Ovary short and broad, 5-celled; style very short. Fruit small, truncate.—*L. triquetra*, *Stschegl. in Bull. Mosc.* 1859, i. 15; *Styphelia pulchella*, *F. Muell. Fragm.* vi. 34.

W. Australia. Swan River and adjoining districts, *Drummond*, 1st Coll. n. 29 and 460, *Preiss*, n. 396 and 401; Toolajay, *Gilbert*, n. 15; Tone river, *Oldfield*; Dillon Bay, Phillips Ranges, *Maxwell*; also a glabrous form, with the sepals scarcely ciliate, Stirling Ranges, *Maxwell*.

51. ***L. polymorphus***, *Sond. in Pl. Preiss.* i. 309. An erect but often weak shrub of 1 to 3 ft., glabrous or more frequently the foliage as well as the branches pubescent or hairy. Leaves erect, from ovate-lanceolate and scarcely 2 lines long to narrow-lanceolate or almost linear and 2 to 4 lines long, obtuse, rigid, concave, prominently ribbed underneath. Spikes short, dense, terminal or in the uppermost axils. Bracts and bracteoles obtusely acuminate and usually pubescent, not half so long as the calyx. Sepals about $1\frac{1}{4}$ lines long, obtuse, ciliate, usually pubescent. Corolla 2 to $2\frac{1}{2}$ lines long, the lobes longer than the tube. Anthers attached below the prominent sterile tips. Hypogynous disk obtusely lobed. Ovary 5-celled; style very short.—*Styphelia polymorpha*, *F. Muell. Fragm.* vi. 31.

W. Australia. Swan River, *Preiss*, n. 392, 402; near Hampden, *Oldfield*; Stirling Range, *F. Mueller*. Sonder refers here Huegel's specimens from King George's Sound, which, however, on re-examination appear to me to be the true *L. assimilis*, and, on the other hand, *Preiss*'s specimens, n. 383 and 384, from Swan River, referred by Sonder to *L. brachycephalus* (*L. cuneolatus*, var.), appear to me to be a rather broader-leaved form of *L. polymorphus*.

52. ***L. assimilis***, *R. Br. Prod.* 545. An erect rigid shrub of 2 to 4 ft., glabrous or the branches minutely pubescent. Leaves erect and often imbricate, in the typical form linear or lanceolate, obtuse, rigid, flat or concave, often prominently ribbed, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Spikes short and dense, terminal or in the uppermost axils. Bracts and bracteoles obtuse, striate, about half

as long as the calyx. Sepals 1 to $1\frac{1}{4}$ lines long, rather thin, obtuse, often coloured at the end. Corolla 2 to $2\frac{1}{2}$ lines long, the lobes rather longer than the tube. Anthers attached a little below the prominent sterile tips. Hypogynous disk truncate but readily separating into distinct scales. Ovary depressed, 5-celled; style short. Fruit flat-topped, ribbed, about as long as the calyx or shortly exceeding it.—DC. Prod. vii. 750; *L. carinatus*, DC. l. c. not of R. Br.; *L. vitellinus*, Sond. in Pl. Preiss. i. 309.

W. Australia. Lucky Bay, *R. Brown, Barter*; King George's Sound and neighbourhood, *A. Cunningham, Huegel, Oldfield, Preiss, n. 363.*

Var. *rudis*. Rather stouter. Leaves broader, from oval-oblong to lanceolate, thick and strongly ribbed. *L. rudis*, F. Muell. Fragm. iv. 106; *Styphelia rudis*, F. Muell. Fragm. vi. 32.

W. Australia. Fitzgerald Range, *Herb. Oldfield*; Bald Island, *Oldfield in Herb. F. Mueller*; Cape le Grand, *Maxwell.*

Both *L. assimilis* and *L. polymorphus* are allied in foliage to *L. striatus* and *L. carinatus*, but the latter two species have smaller and differently shaped flowers, and the ovary always 2-celled.

53. **L. Oldfieldii**, *Benth.* An erect shrub of 2 to 3 ft., the branches and foliage softly pubescent. Leaves erect, lanceolate, obtuse, rigid, concave, prominently ribbed, 2 to 4 lines long. Spikes short, dense, terminal or in the uppermost axils. Lower bracts almost leaf-like, longer than the bracteoles, upper ones smaller; bracteoles acuminate, fully half as long as the calyx. Sepals nearly $1\frac{1}{2}$ lines long, thin, ciliate, rather broad but almost acute. Corolla 2 lines long or rather more, the lobes 2 or 3 times as long as the very short tube. Anthers attached below the prominent sterile tips. Hypogynous disk truncate or sinuate. Ovary densely hispid with white almost chaffy hairs, 3-celled; style short.

W. Australia. Darling Range, *Oldfield.* The foliage is nearly that of the coarse varieties of *L. polymorphus*, but the ovary is very different.

54. **L. cucullatus**, *R. Br. Prod.* 545. An erect rigid shrub, glabrous or with minutely pubescent branches. Leaves crowded, broadly ovate or almost orbicular-cordate, obtuse or with a small callous point, rarely obtusely acuminate or those at the base of the branches passing into lanceolate, all very concave, almost conduplicate, smooth or finely striate, 2 to 3 lines long or nearly 4 when narrow. Spikes short dense and few-flowered, terminal or in the uppermost axils. Bracts like the leaves but very much smaller; bracteoles strongly keeled but scarcely acute, about half as long as the calyx. Sepals $1\frac{1}{2}$ to nearly 2 lines long, rather obtuse, coloured at the end, minutely ciliate. Corolla nearly 3 lines long, the lobes longer than the tube. Anthers attached a little below the prominent recurved sterile tips. Hypogynous disk short, truncate. Ovary prominently ribbed, 5-celled or rarely 4-celled.—DC. Prod. vii. 750; Sond. in Pl. Preiss. i. 320; *Styphelia cucullata*, Spreng. Syst. i. 656; F. Muell. Fragm. vi. 32; *Leucopogon brachycephalus*, DC. Prod. vii. 746; Sond. in Pl. Preiss. i. 308 (partly?).

W. Australia. King George's Sound, *R. Brown, Harvey, Preiss, n. 377*; Swan River, *F. Mueller, Drummond, 1st Coll. n. 463.*

Preiss's specimens, n. 377, have remarkably large, broad, concave leaves; in Drummond's n. 461, they are remarkably small, but still very concave; in Preiss's n. 383 and 384, they

are small and much flatter but broader than in *E. polymorphus*, to which species they ought, perhaps, to be referred as a variety. Some of Drummond's larger Swan River specimens have large and small, more or less concave, leaves on different branches, and they are generally more acuminate than in those from King George's Sound. F. Mueller, Fragm. vi. 34, includes, under *Styphelia brachycephala*, specimens which I should refer to this and the three following species.

55. **L. sprengelioides**, *Sond. in Pl. Preiss.* i. 319. An erect shrub, with rather slender glabrous or scarcely pubescent branches. Leaves erect, sessile, ovate obovate or lanceolate, the larger ones very concave, embracing the stem to the middle, shortly spreading upwards and nearly 2 lines long, but the greater number crowded, very obtuse and scarcely 1 line long. Spikes short, dense, terminal or in the uppermost axils. Lower bracts leaf-like, the upper ones small; bracteoles very obtuse, about half as long as the calyx. Sepals 1 line long or rather more, obtuse, minutely ciliate and sometimes pubescent. Corolla about 2 lines long, the lobes longer than the tube. Anthers attached below the prominent sterile tips. Hypogynous disk truncate or sinuate-lobed. Ovary glabrous, 5-celled or rarely 4-celled; style very short.

W. Australia. Swan River, *Drummond, 1st Coll. n. 27 and 461*; York district, *Preiss, n. 397*. Very near *L. encullatus*, differing chiefly in the much smaller leaves.

L. parvifolius, *Sond. in Pl. Preiss.* i. 319, but not of DC., appears to me to be the same as *L. sprengelioides*, differing from *L. parvifolius*, DC. (which is *L. tamariscinus*), in the leaves not acuminate, the short spikes, and the 3-celled not 2-celled ovary.

56. **L. obtusatus**, *Sond. in Pl. Preiss.* i. 313. Erect with numerous short erect pubescent branchlets. Leaves sessile, erect, mostly imbricate, ovate-oblong, very obtuse, thick, concave, the veins not prominent, about 1 line long. Flowers few in short dense terminal spikes or rarely also in the uppermost axils. Lower bracts like the leaves but smaller; bracteoles broad, obtuse, not half so long as the calyx. Sepals about 1 line long, obtuse, with scarios margins. Corolla about 2 lines long, the lobes longer than the tube. Anthers attached under the rather long sterile tips. Hypogynous disk shortly lobed. Ovary glabrous, 3-celled; style very short.—*L. brevifolius*, *Stschegl. in Bull. Mosc.* 1859, i. 17.

W. Australia, *Drummond, 5th Coll. n. 322*; Mount Bakewell, *Preiss, n. 395* (partly).

Var. elachophyllus, F. Muell. Leaves narrow, more conspicuously ribbed underneath, the flowers rather smaller and the sepals and bracts usually ciliate.—Near Israelite Bay, *Macarwell*, also in Drummond's collection.

57. **L. fimbriatus**, *Stschegl. in Bull. Mosc.* 1859, i. 17. An erect shrub of 1 to 2 ft., the branches pubescent. Leaves erect and closely appressed, ovate or oblong, very obtuse, concave and almost embracing the stems, usually ciliate, striate but not so prominently as in *L. ozothamnoides*, rarely exceeding 1 line, occasionally opposite. Spikes terminal, short, dense and few-flowered. Bracts leaf-like but shorter and broader than the stem-leaves; bracteoles very broad with prominent keels, fully half as long as the calyx. Sepals about 1 line long, obtuse, with scarios ciliate margins. Corolla about 2 lines long, the lobes longer than the tube. Anthers attached below the short sterile tips. Hypogynous disk truncate. Ovary short, glabrous, 3-celled. Style very short.

W. Australia, *Drummond*, 3rd Coll. n. 187. This and the preceding species are referred by F. Mueller, *Fragm.* vi. 34, but with doubt, to *L. brachycephalus*, DC. (*L. cucullatus*, Br.).

58. **L. ozothamnoides**, F. Muell. *Herb.* Very near *L. fimbriatus*, and perhaps a variety. Leaves ovate, closely appressed and embracing the stem and occasionally opposite, as in that species, but larger, more prominently striate, 1 to 2 lines long. Inflorescence, flowers, anthers, and disk the same. Ovary similarly 3-celled, but densely hirsute with long hairs.

W. Australia. Dry sandy situations near Kinderup, *Oldfield*.

SECT. II. HETERANTHESIS. Spikes or clusters terminal and sometimes also in the uppermost axils. Anthers obtuse or emarginate, without sterile tips.

In this section the inflorescence is nearly that of *Perojoa*, whilst the anthers are those of *Pleuranthus*. The first rather anomalous species connects the section with *Perojoa*, several of the others have the aspect of *Lissanthe* or of *Cyathodes*.

59. **L. plumuliflorus**, F. Muell. *Fragm.* vi. 29. A weak shrub of 1 to 2 ft., the branches and foliage more or less pubescent and hirsute with rigid hairs. Leaves broadly ovate-cordate, very obtuse or with a minute callous recurved point, convex with recurved margins, under $\frac{1}{2}$ in. long. Spikes solitary, terminal, contracted into an almost globular plumose head. Bracts small, ovate, membranous; bracteoles ovate-lanceolate, acute, $\frac{3}{4}$ line long, ciliate-hirsute. Sepals $2\frac{1}{2}$ lines long, the lower part lanceolate, the rest narrow-linear and plumose-hirsute. Corolla nearly $1\frac{1}{2}$ lines long, the lobes shorter than the tube. Anthers oblong, attached near the top, emarginate, without sterile tips. Hypogynous disk lobed. Ovary 2-celled; style very short. —*Styphelia plumuliflora*, F. Muell. *Fragm.* vi. 29.

W. Australia. Between Moore and Murchison rivers, *Drummond*, 6th Coll. n. 122.

60. **L. unilateralis**, *Stschegl. in Bull. Mosc.* 1859, i. 19. A tall and erect or low and spreading but neat-looking shrub, glabrous or the branches and sometimes the foliage minutely pubescent. Leaves oblong-linear, obtuse or with a small callous point, flat or slightly convex, finely nerved underneath, $\frac{3}{4}$ to $\frac{1}{2}$ in. long. Spikes or racemes loose but few-flowered, terminal and in the uppermost axils, all turned to one side and more or less pendulous, the flowers very shortly pedicellate within the small broad bracts. Bracteoles not half so long as the calyx, obtuse or almost acute. Sepals 1 to $1\frac{1}{4}$ lines long, acute. Corolla $2\frac{1}{2}$ to nearly 3 lines long, the tube longer than the calyx, the lobes shorter. Anthers attached above the middle, obtuse without sterile tips. Hypogynous disk undulate or obtusely lobed. Ovary 2-celled, glabrous; style rather long. —*L. aculiflorus*, *Stschegl. in Bull. Mosc.* 1859, i. 18.

W. Australia, *Drummond*, 5th Coll. n. 305, 306 (these numbers applied to other plants in some sets); near the top of Mount Bland, *Maxwell*; Stirling Range, F. Mueller. The two forms distinguished by Stschegleev differ slightly in the size of the flower; the other characters given by him do not hold good in our specimen. F. Mueller refers the species as a variety to *L. pendulus*.

61. **L. Hookeri**, *Sond. in Linnæa*, xxvi. 243. A low diffuse or bushy

shrub. Leaves oblong-linear, obtuse or with an obscure callous point, shortly petiolate, flat or with recurved margins, few-nerved and glaucous underneath, rarely $\frac{1}{2}$ in. long and often not above $\frac{1}{4}$ in. Flowers few, in short terminal spikes. Bracts and bracteoles broad, about half as long as the calyx. Sepals very obtuse, $\frac{1}{2}$ to $\frac{3}{4}$ line long. Corolla about $1\frac{1}{2}$ lines long, the lobes about as long as the tube. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk shortly lobed. Ovary 3-celled; style very short. Fruit small, nearly globular.—Hook. f. Fl. Tasm. i. 251. t. 75 B; *L. obtusatus*, Hook. f. in Hook. Lond. Journ. vi. 269, not of Sond.

N. S. Wales. Ben Lomond, New England, *Beckler*; Upper Hastings river, *Moore and Carron*.

Victoria. Common in the Haidinger Range, Mount Barkley, Mount Buller, and others of the Australian Alps, *F. Mueller*.

Tasmania. Abundant in alpine situations throughout the island, *J. D. Hooker*.

The flowers are often partially diocious, the males having longer anthers, a less perfect ovary, and a more developed disk than the females. In this respect, as well as in foliage and inflorescence, the species closely resembles *Lissanthe montana*, with which *F. Mueller* unites it under the name of *Styphelia montana*, *Fragm.* vi. 45.

62. ***L. Macraei***, *F. Muell. in Trans. Phil. Soc. Vict.* i. 106, and in *Hook. Kew Journ.* viii. 163. An erect rigid shrub of 6 to 8 ft., with pubescent branches. Leaves rather crowded, spreading, petiolate, ovate to ovate-lanceolate, obtuse or with a small callous point, flat, green on both sides, shining above, mostly about $\frac{1}{4}$ in. long. Spikes few-flowered, but often exceeding the leaves, terminal or in the uppermost axils. Bracts and bracteoles very obtuse, often ciliolate, nearly half as long as the calyx. Sepals about $1\frac{1}{4}$ lines long, often but not always ciliolate. Corolla-tube rather broad, scarcely exceeding the calyx; lobes rather shorter. Anthers attached near the top, obtuse, without sterile tips. Hypogynous disk broad, shortly lobed. Ovary 5-celled; style rather short, thickened towards the base. Fruit small, nearly globular.—*Styphelia Macraei*, *F. Muell. Fragn.* vi. 46.

Victoria. In valleys at the sources of the Mitta-Mitta, near Mount Hotham, Mount Jatrohe, along torrents in the Cobleras mountains, at an elevation of 5000 to 6000 ft., in the Baw-Baw Range descending to 3500 ft., *F. Mueller*.

63. ***L. pleurandroides***, *F. Muell. Fragn.* iii. 143. A stout, spreading, scrubby shrub of about 1 ft., glabrous or minutely pubescent. Leaves on slender petioles of from $\frac{1}{2}$ to 1 line, broadly oblong, very obtuse at both ends, thick, convex above, with 2 longitudinal furrows underneath, mostly about 2 lines long. Flowers few together, in dense, terminal spikes or clusters, scarcely exceeding the leaves, and the rhachis shorter than the petioles. Bracts very small; bracteoles not half so long as the calyx. Sepals broad, obtuse, coloured at the end, the margins ciliate, about 1 line long. Corolla-tube about 2 lines long; lobes not above 1 line. Anthers attached above the middle, oblong, obtuse, without sterile tips. Hypogynous disk short, sinuate. Ovary very hairy, 1-celled, with a single ovule suspended from a slender funicle; style long and slender, sprinkled with a few long hairs.—*Styphelia pleurandroides*, *F. Muell. Fragn.* vi. 32.

W. Australia. Moir's Inlet, *Maxwell*. I have dissected several buds as well as open

flowers without ever finding more than a single ovule, but the corolla and habit are entirely those of *Leucopogon*, not of *Monotoca*.

64. **L. melaleucoides**, *A. Cunn.*; *DC. Prod.* vii. 750. An erect, robust shrub of several feet, the branches usually minutely pubescent. Leaves oblong-linear, tapering into a pungent point, flat or nearly so, smooth and shining, rarely exceeding $\frac{1}{2}$ in. Spikes short, terminal, with occasionally a few single flowers in the uppermost axils. Bracts and bracteoles very small. Sepals obtuse or mucronate, rather above 1 line long. Corolla-tube shorter than the calyx; lobes as long as the tube. Anthers attached at the top, very obtuse, without sterile tips. Hypogynous disk 5-lobed. Ovary 5-angled, 5-celled.—*L. linifolius*, *A. Cunn.*; *DC. Prod.* vii. 747; *Styphelia linifolia*, *F. Muell. Fragm.* vi. 36.

Queensland. Barren heaths near Redcliffe point, Moreton Bay, *A. Cunningham*; Mount Lindsay, *Fraser*.

N. S. Wales. Hunter's River, *A. Cunningham*; Hastings and Macleay rivers, *Beckler*; New England, *C. Stuart*.

This species has the foliage nearly of *L. leptospermoides*, but it is readily distinguished by the inflorescence.

65. **L. pluriloculatus**, *F. Muell. Fragm.* i. 37. A small but robust, erect, bushy shrub, the branchlets pubescent. Leaves crowded, linear, rigid, tapering into a pungent point, with revolute margins, mostly about $\frac{1}{2}$ in. long. Flowers in short, terminal spikes or racemes, with a few occasionally in the uppermost axils, each flower shortly pedicellate within the small, subtending bract and bracteoles. Sepals obtuse, $\frac{3}{4}$ to nearly 1 line long. Corolla-tube shortly exceeding the calyx; lobes nearly as long as the tube. Anthers attached near the top, oblong, very obtuse, without sterile tips. Hypogynous disk lobed. Ovary short, hairy, 5- to 7-celled. Fruit small, depressed-globular.—*Styphelia pluriloculata*, *F. Muell. Fragm.* vi. 32.

Queensland. Burnett river, *F. Mueller*; in the interior, *Mitchell*.

N. S. Wales. Near Camden, *Leichhardt*.

66. **L. pleiospermus**, *F. Muell. Fragm.* vi. 41. An apparently erect, bushy shrub, with pubescent branches. Leaves oblong-linear, rather obtuse, with a short, rigid point, concave, finely veined underneath, mostly about $\frac{1}{2}$ in. long. Racemes terminal or in the uppermost axils, rather loose, but rarely exceeding the leaves, the flowers small and pedicellate. Bracts and bracteoles small, broad, obtuse, striate, all at the base of the pedicels. Sepals about $\frac{1}{2}$ line long, broad, obtuse, striate. Corolla $1\frac{1}{2}$ lines long, the tube twice as long as the calyx, with the exerted part campanulate, the lobes short. Anthers attached near the top, obtuse, without sterile tips. Hypogynous disk truncate. Ovary short, broad, 7- to 10-celled; style short. Fruit depressed-globular, smooth, about 2 lines diameter.—*Styphelia pleiosperma*, *F. Muell. Fragm.* vi. 41.

N. S. Wales. *Leichhardt*; Darling Downs, *F. Law*.

67. **L. rubicundus**, *F. Muell. Herb. (not of Fragm.)* iv. 99. A glabrous shrub of about 1 ft., with rather slender, but rigid branches. Leaves petiolate, linear or linear-lanceolate, tapering into a pungent point, rigid,

convex, with the margins and midrib thickened so as to be 2-furrowed underneath, mostly about $\frac{1}{4}$ in. long. Flowers apparently red, erect, in very short, terminal spikes or racemes, on pedicels of about $\frac{1}{2}$ line, the bracts and bracteoles at the base of the pedicels not above half so long. Sepals broadly ovate, very obtuse, coloured, about $\frac{1}{2}$ line long. Corolla-tube cylindrical, about 2 lines long, hairy inside about the middle, glabrous at the base and in the throat, the lobes bearded above the middle, more than 1 line long. Anthers attached above the middle, oblong, obtuse, without sterile tips. Hypogynous disk sinuate or obtusely lobed. Ovary slightly hairy, 3-celled (or 4-celled?); style slender, hairy.—*Cyathodes rubicunda*, F. Muell. Fragm. iv. 99; *Styphelia rubicunda*, F. Muell. Fragm. vi. 31.

W. Australia. Sandy plains between Point Malcolm and Point Culver, *Marxell*. This and the preceding two species, with their pedicellate flowers, come very near to the first two species of *Lissanthe*, but with bearded corolla-lobes and drier fruits. In transferring this species from *Cyathodes* to *Leucopogon* I have been able to retain F. Mueller's specific name, as the other species of *Leucopogon* to which he had given it proves to be Sonder's *L. oxycedrus*.

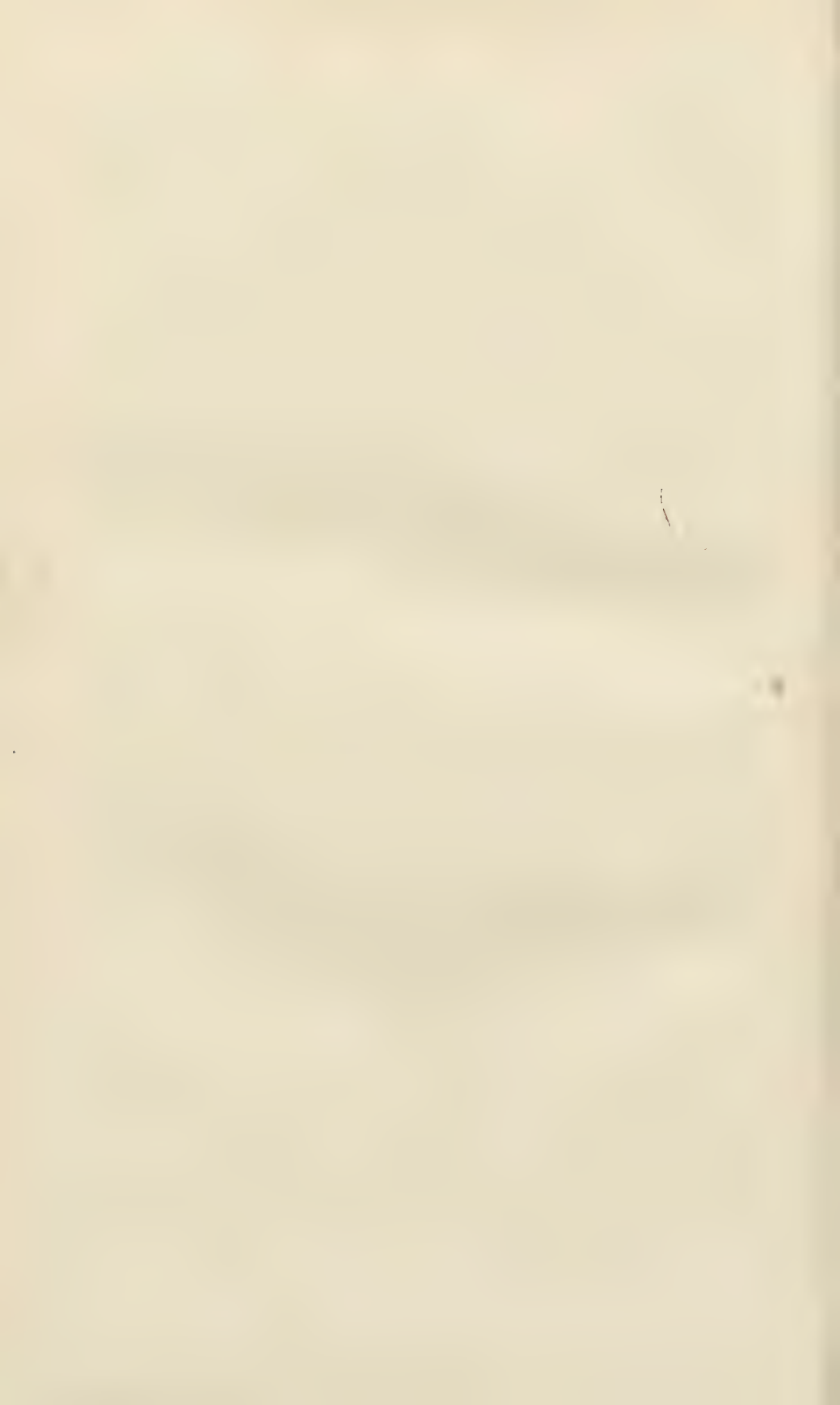
SECT. III. PLEURANTHUS.—Spikes all axillary, few-flowered or reduced to a single flower besides the rudimentary one, the common peduncle very short or rarely as long as the leaves. Anthers obtuse or emarginate, without sterile tips. Style usually slender and elongated, rarely very short.

SERIES 1. CONFERTÆ.—Leaves small (1 to 2 lines long), with recurved margins. Flowers mostly solitary besides the rudiment, and nearly sessile, but often forming dense, leafy spikes along the branchlets. Ovary 5-celled.

68. ***L. attenuatus***, *A. Cunn. in Field. N. S. Wales*, 341. A shrub, with long, spreading branches and numerous short branchlets, usually minutely pubescent as well as the foliage or sometimes hoary-villous. Leaves from ovate to oblong or lanceolate, mucronate, flat or with recurved margins, mostly about 1 line, or more rarely 2 lines long. Flowers solitary in each axil, with the rudiment of a second, or rarely 2, and often so crowded along the branchlets as to form leafy spikes. Peduncles exceedingly short. Bracts minute; bracteoles not half so long as the calyx. Sepals obtuse, 1 to $1\frac{1}{4}$ line long, obtuse. Corolla $1\frac{1}{2}$ to 2 lines, the lobes as long as the tube. Hypogynous disk small, lobed. Anthers attached near the top, obtuse, without sterile tips. Ovary 5- or rarely 4-celled, striate; style short. Fruit striate, scarcely exceeding the calyx, often ripening only a single seed.—DC. Prod. vii. 752; *L. reclinatus*, *A. Cunn.*; DC. l. c.; *L. recurvatus*, *A. Cunn.*; DC. l. c. 754 and (the more villous specimens) *L. mucronatus*, DC. l. c. 751, and *L. ramulosus*, *A. Cunn.*; DC. l. c. 753.

N. S. Wales. Barren hills in the interior, near Cox's River, Daly's Plains, between the Lachlan and Macquarrie rivers, *A. Cunningham*. The dense white beards of the corolla and crowded flowers give this plant often the aspect of the section *Perojoa*, but the flowers are really all axillary, not in terminal spikes, and the anthers without sterile tips.

69. ***L. confertus***, *Benth.* A shrub, with the habit, foliage, and inflorescence of *L. attenuatus*, and softly pubescent as in some varieties of that species. Leaves oblong or oblong-linear, with a very fine, rigid point, the



margins recurved, 1 to 2 lines long. Flowers rather larger than in *L. attenuatus*, and as in that species solitary or 2 together in each axil, but crowded so as to form leafy spikes. Bracteoles mucronate-acute, more than half as long as the calyx. Sepals narrow, very acute, nearly 2 lines long. Corolla fully 2 lines long, the tube short, the lobes longer, with very white beards. Anthers attached near the top, obtuse, without sterile tips. Hypogynous disk very short. Ovary 5-celled, tapering into the style.

N. S. Wales. New England, *C. Stuart*.

SERIES 2. ERICOIDEÆ.—Leaves narrow ($\frac{1}{3}$ to 1 in.) except in *L. concinnum*, with recurved or revolute margins. Flowers 2 or more together, in sessile or shortly pedunculate axillary clusters. Ovary 5- or 3-celled.

70. *L. muticus*, R. Br. Prod. 543. An erect shrub, glabrous or the branches minutely pubescent. Leaves oblong-linear or oblanceolate, obtuse or with a minute, callous point, flat or the margins slightly recurved, mostly about $\frac{1}{2}$ in. long, the lower ones sometimes short and broad. Spikes axillary, few-flowered, shorter than the leaves. Bracts and bracteoles broad, obtuse, about half as long as the calyx. Sepals about 1 line long or scarcely more, rather narrow, obtuse. Corolla-tube about as long as the sepals; lobes as long as the tube. Anthers attached near the top, obtuse, without sterile tips. Hypogynous disk separable into truncate scales. Ovary oblong, 5-celled, tapering into the rather long style. Drupe oblong, glabrous or hairy, twice as long as the calyx, very obtuse, prominently 5-angled.—DC. Prod. vii. 747; *L. appressus*, Sieb. Pl. Exs., not of R. Br.; *Styphelia mutica*, F. Muell. Fragm. vi. 45.

N. S. Wales. Port Jackson and Blue Mountains, *R. Brown*, *Sieber*, n. 101, *Fl. Mact.* n. 455, and many others. There appears to be a slight degree of unisexuality in the flowers.

71. *L. ericoides*, R. Br. Prod. 543. A heath-like shrub, sometimes low and diffuse, sometimes erect and attaining several feet, glabrous or the branches and even the foliage more or less pubescent. Leaves mostly oblong-linear, obtuse, mucronate, $\frac{1}{4}$ to $\frac{1}{2}$ in. long, but sometimes narrow and acute, or, especially the lower ones, small broadly oblong or even ovate, always with recurved or revolute margins. Flowers few together, in close axillary clusters or spikes, rarely exceeding the leaves, but the spikes sometimes so numerous as to form long, dense, leafy racemes. Bracteoles about half as long as the calyx. Sepals scarcely 1 line long and sometimes shorter, narrow, mucronulate. Corolla variable in size, usually about 2 lines long, the lobes rather longer than the tube. Anthers linear, attached near the top, obtuse, without sterile tips. Hypogynous scales free or slightly cohering. Ovary 5-celled, pubescent or hairy, or rarely glabrous; style rather long. Fruit small, ovoid-oblong, often curved when partially abortive.—DC. Prod. vii. 747; Hook. f. Fl. Tasm. i. 250; *Styphelia ericoides*, Sm. Pl. N. Holl. 48; F. Muell. Fragm. vi. 45; *Epacris spuria*, Cav. Ic. iv. 27. t. 347 (not good); *Styphelia spuria*, Poir. Dict. vii. 485; *S. trichocarpa*, Labill. Pl. Nov. Holl. i. 47. t. 66 (not good); *Leucopogon trichocarpus*, R. Br. Prod. 543; DC. Prod. vii. 747.

Queensland. Moreton Island, *F. Mueller*.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown*, *Sieber*, n. 105, *Fl. Merit.* n. 499, and others; brushy forest land in the interior, north of Bathurst, *A. Cunningham*; near Berrima, *Woolfs*.

Victoria. Common on dry hills, from the Glenelg, *Robertson*, to Wilson's Promontory, *F. Mueller*; in the interior on Victoria Range and the Grampians, and ascending Mount Cobberas to 6000 ft., *F. Mueller*; Wimmera, *Dallachy*.

Tasmania. Port Dalrymple and Derwent river, *R. Brown*; very abundant throughout the island in dry heaths, etc., *J. D. Hooker*.

S. Australia. Near Penola, *Woods*; near Mount Gambier, *F. Mueller* (*Fragn. l. c.*).

72. ***L. brevicuspis***, *Benth.* An erect, bushy shrub, glabrous or the branches and foliage more or less pubescent. Leaves broadly oblong or almost obovate-oblong, minutely but rigidly mucronate, convex, with recurved margins or nearly flat, mostly about $\frac{1}{2}$ in. long. Spikes axillary, very short, 2- or 3-flowered, erect or at length recurved. Bracts small, minutely mucronate. Bracteoles mucronate-acuminate, about half as long as the calyx. Sepals 2 lines long, softly pubescent, mucronate-acute. Corolla-tube as long as the calyx; lobes rather shorter, erect at the base. Anthers obtuse, without sterile tips. Hypogynous disk large, with acuminate lobes. Ovary glabrous, 5-celled. Fruit ovoid or ovoid-oblong, about 3 lines long, the endocarp very hard.

W. Australia. *Draconand*, 2nd Coll. n. 249; Stirling Range, *F. Mueller*. Very near *L. propinquus*, but with the leaves almost of *L. Richei*.

73. ***L. propinquus***, *R. Br. Prod.* 543. An erect, rigid shrub of 3 or 4 ft., glabrous or the branches minutely pubescent. Leaves linear, rigid, with a short, almost pungent point, convex, with recurved margins, $\frac{1}{2}$ to 1 in. long. Peduncles axillary, very short, erect or scarcely spreading, bearing usually 2 or 3 flowers, but sometimes 4 or 5, or only 1 besides the rudiment. Bracts small; bracteoles not half so long as the calyx, all with a fine, rigid point. Sepals nearly $1\frac{1}{2}$ lines long, dry, mucronate. Corolla-tube shorter than the calyx; lobes longer than the tube, much revolute. Anthers attached above the middle, obtuse or notched, without sterile tips. Hypogynous disk toothed, readily separating into distinct scales. Ovary 5-celled; style rather long, with a broad stigma. Fruit from nearly globular to ovoid-oblong, 4 lines long, with a thick, hard endocarp.—*DC. Prod.* vii. 748; *Styphelia propinqua*, Spreng. Syst. i. 658; *L. pungens*, Sond. in Pl. Preiss. i. 324; *Styphelia pungens*, *F. Muell. Fragm.* vi. 34.

W. Australia. King George's Sound, *R. Brown*, *A. Cunningham*, and others; Torbay and Cape Riche, *Oldfield*; Gordon river, *Maxwell*; Cape Naturaliste, *Collie*; Swan River, *Fraser*, *Oldfield*, *Preiss*, n. 366, 373.

This has the foliage and nearly the inflorescence of *L. racemulosus*, but is readily known by the more compact spikes, more erect flowers, and short corolla-tube. The var. *abbreviata*, indicated by *F. Mueller* with short leaves and obtuse bracts, appears to me to be the *L. insularis*.

74. ***L. insularis***, *A. Cunn.*; *DC. Prod.* vii. 754. A rigid, scrubby, much-branched shrub of about 2 ft., glabrous or the branches pubescent. Leaves very spreading or reflexed, linear or rarely oblong, rigid, with a pungent point, the margins revolute, mostly 3 or 4 lines long. Peduncles axillary, very short, bearing 1 or 2 or rarely 3 to 5 flowers, erect or scarcely

spreading. Bracts very small; bracteoles not half so long as the calyx, all obtuse. Sepals scarcely above 1 line long, dry, obtuse or rarely with a minute not pungent point. Corolla-tube about as long as the calyx; lobes as long as or rather longer than the tube, sometimes cohering at the base so as to look like part of the tube till the flowering is advanced. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk shortly lobed, readily separating into distinct scales. Ovary 5-celled; style slender.—*L. subulatus*, F. Muell. *Fragm.* iv. 103; *Styphelia subulifolia*, F. Muell. *Fragm.* vi. 33; *L. oblongifolius*, Sond. in *Pl. Preiss.* i. 323 (with rather broader leaves).

W. Australia. Rottenest Island, *A. Cunningham*: towards the Great Bight, *Maxwell*; also in Drummond's and Preiss's collections. The flowers are generally solitary or 2 together in Cunningham's, Preiss's, and Maxwell's specimens, often 3 to 5 in Drummond's (which are in bud only). Maxwell's have the leaves more closely revolute than the others. All are very near *L. propanqueus*, and perhaps a variety, with shorter, more sessile, more revolute, and more pungent leaves, the bracteoles and sepals, on the contrary, much more obtuse.

75. **L. Allittii**, *F. Muell. Fragm.* iv. 103. A rather stout, rigid, glabrous shrub, about 1 ft. high and not much branched (*Oldfield*). Leaves sessile, from ovate to ovate-lanceolate or lanceolate, with a short, almost pungent point, the margins much revolute, mostly about $\frac{1}{2}$ in. long. Peduncles axillary, short, at length recurved, bearing 2 to 4 flowers, shortly pedicellate within the small bracts. Bracteoles broad, obtuse, not half so long as the calyx. Sepals scarcely above 1 line long, dry, obtuse. Corolla nearly 4 lines long, the lobes as long as the tube. Anthers obtuse, without sterile tips. Hypogynous disk obscurely lobed or crenulate, readily separating into distinct scales. Ovary 5-celled; style elongated.—*Styphelia Allittii*, F. Muell. *Fragm.* vi. 34.

W. Australia. Murchison river, *Oldfield*. Differs from *L. racemulosus* chiefly in the breadth of the leaves.

76. **L. racemulosus**, *DC. Prod.* vii. 717. An erect, rigid shrub, sometimes low, with almost simple, erect stems, sometimes several feet high and branching, usually glabrous. Leaves linear or linear-lanceolate, rather rigid, with a short, usually pungent point, the margins revolute, $\frac{1}{2}$ to 1 in. long. Peduncles axillary, very short, often at length recurved, bearing 2 to 5 flowers, shortly pedicellate within the small bracts. Bracteoles not one-third so long as the calyx. Sepals scarcely 1 line long, dry, rather narrow, but not acute. Corolla-tube fully 2 lines long, or, including the erect base of the lobes, which have the appearance of a continuation of the tube, 3 lines long, the lobes only shortly spreading above that. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous scales ovate, acuminate. Ovary 5-celled; style elongated. Fruit hard, globular, about 2 lines diameter.—Sond. in *Pl. Preiss.* i. 312 (excl. the var. β); *Styphelia racemulosa*, F. Muell. *Fragm.* vi. 33.

W. Australia. Swan River and thence to King George's Sound, *Fraser, Drummond*, *1st Coll.*, *2nd Coll.* n. 267, *Preiss.* n. 369, and several others; between Swan and Murchison rivers, *Oldfield*. The long falcate fruits described by F. Mueller from some of *Oldfield*'s specimens (all probably from one bush) appear to me to be monstrous; the hard portion contains the 5 consolidated abortive cells, and the lateral cavity on the convex side

is outside of them. I find it always occupied by a long, black, loose body, apparently without any remaining organization, probably a decayed grub.

77. **L. pendulus**, *R. Br. Prod.* 545. An erect, heath-like, bushy shrub, attaining sometimes 3 or 4 ft., with numerous, slender, glabrous or minutely pubescent branches. Leaves erect or scarcely spreading, oblong-linear, obtuse or with a short, callous point, convex or with revolute margins, 2 to 4 lines or rarely nearly $\frac{1}{2}$ in. long. Peduncles axillary, 1 to 2 lines long, recurved, 1- or 2-flowered. Bracts minute; bracteoles not half so long as the calyx, very obtuse. Sepals about 1 line long, dry, obtuse, not very broad. Corolla-tube about as long as the calyx; lobes twice as long, almost cohering at the base into a campanulate throat, with recurved ends. Anthers attached above the middle, linear, obtuse, without sterile tips, long in some specimens, short in others. Hypogynous disk toothed. Ovary oblong, 5-celled; style rather long. Fruit pendulous, ovoid-oblong, twice or three times as long as the calyx. DC. *Prod.* vii. 751; *Styphelia pendula*, Spreng. *Syst.* i. 657; F. Muell. *Fragm.* vi. 33 (partly); *L. secundiflorus*, Sond. in *Pl. Preiss.* i. 320.

W. Australia. King George's Sound, *R. Brown*, and thence along the range to Cape Riche, *Drummond*, 2nd *Coll.* n. 268, *Preiss*, *Oldfield*, *Maxwell*, *F. Mueller*.

Var. *cuspidatus*, F. Muell. Leaves with a more prominent, rigid point. Flowers rather smaller. — *L. pilosus*, Steudl. in *Bull. Mosc.* 1859, i. 19. *Drummond*, 5th *Coll.* n. 313, the flowers not yet expanded.

F. Mueller includes, as a pluriflorous variety, *L. unilateralis*, which appears to me to be well characterized by the inflorescence as well as by other peculiarities.

78. **L. concinnus**, *Benth.* A low, erect, very much-branched shrub, glabrous or the branches slightly pubescent. Leaves very spreading or reflexed, ovate or oblong, obtuse or with a small point, convex, shining, 1 to 2 lines long. Peduncles axillary, very short, recurved, 1- or 2-flowered. Bracts very small; bracteoles not half so long as the calyx. Sepals under 1 line long, obtuse or almost acute. Corolla-tube about 1 line long; lobes about as long as the tube. Anthers attached above the middle, linear, obtuse, without sterile tips. Hypogynous disk 5-lobed, separable into distinct scales. Ovary 3-celled or sometimes 2-celled; style slender.

W. Australia. Between King George's Sound and Swan River, *Harvey*, *Drummond*; near Albany, *Kojoupp*, and table land in the interior from Eyre's Relief, *Maxwell*. Included by F. Mueller in *L. pendulus*; but, besides the difference in the foliage, I have never found more than 3 cells to the ovary, and in some specimens, especially of Harvey's and Drummond's, only 2 cells.

SERIES 3. MICRANTHÆ.—Leaves oblong or lanceolate, nearly flat or with recurved margins. Ovary 2-celled. Flowers small and nearly sessile.

79. **L. margarodes**, *R. Br. Prod.* 542. A weak, straggling shrub, with pubescent branches. Leaves oblong-linear or oblanceolate, obtuse or with a minute callous point, the margins recurved, rarely exceeding $\frac{1}{2}$ in. and mostly under that length. Peduncles axillary, very short, bearing 2 or 3 flowers or sometimes only 1 besides the rudiment. Bracts very small; bracteoles broad, obtuse, scarcely half as long as the calyx. Sepals about 1 line long, acute. Corolla-tube much shorter than the calyx; lobes narrow, twice as long as the tube. Anthers attached near the top, obtuse, without

sterile tips. Hypogynous disk rather long. Ovary oblong, compressed, 2-celled, tapering into a rather long style. Fruit oblong, obtuse, nearly 3 lines long, succulent, angular and sterile at the base, the remaining seed-bearing portion striate and compressed.—DC. Prod. vii. 747; *Styphelia marginodes*, Spreng. Syst. i. 657; F. Muell. Fragm. vi. 36.

Queensland. Sandy Cape, Harvey Bay, *R. Brown*; Stradbroke Island, *Fraser*; Moreton Island, *F. Mueller*.

N. S. Wales. Near Newcastle, *Leichhardt*.

80. ***L. flavescens*, Sond. in Pl. Preiss. i. 322.** A shrub of 2 to 4 ft., with erect branches, minutely pubescent, the foliage of a pale yellowish hue when dry. Leaves rather crowded, erect, oblong-linear, obtuse or with a minute callous point, flat or nearly so, contracted into a very short petiole, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Flowers axillary, solitary on an exceedingly short pedicel, the subtending bracts and rudimentary flower of the other species entirely wanting. Bracteoles broad, ciliate, about half as long as the calyx. Sepals under 1 line long, almost acute, with thin, ciliate margins. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous scales shortly acuminate, free or slightly cohering. Ovary oblong, 2-celled; style rather long. Fruit oblong, flat, nearly 3 lines long, with 3 to 5 raised ribs on each side, and contracted into a stipes at least as long as the calyx.—F. Muell. Fragm. iv. 100; *Styphelia flavescens*, F. Muell. Fragm. vi. 33.

W. Australia. King George's Sound or adjoining districts, *Burk. & Preiss. i. 379*, *Drummond, 5th Coll. n. 312*.

Var. *brevifolius*. Leaves 2 to 3 lines long, thicker and more striate, the floral ones not exceeding the flowers.—*Drummond, n. 153*; near Mount Bland, *Maxwell*.

The subtending bracts in this species appear to be entirely deficient, as in the section *Lissanthoides* of *Brachygloma*, but the corolla-lobes are strictly valvate and bearded. The foliage and general aspect of the plant is nearly that of *L. crassifolius*, but the want of bracts, the 2-celled ovary, and flat fruit, are very different.

81. ***L. blepharolepis*, F. Muell. Fragm. vi. 48.** An erect shrub, with virgate branches, glabrous or minutely pubescent. Leaves sessile, erect, oblong-lanceolate, shortly tapering into a fine point, flat or slightly concave, of a pale colour, the veins fine and not prominent, under $\frac{1}{2}$ in. long. Flowers very small, in axillary racemes of 2 to 5. Bracts very small; bracteoles about half as long as the calyx. Sepals under 1 line long, thin, obtuse, ciliate. Corolla almost uncelate, nearly 2 lines long, the lobes rather longer than the tube. Anthers attached near the top, oblong, obtuse, without sterile tips. Hypogynous scales distinct, ovate, fringed with a few long hairs. Ovary oblong, truncate, 2-celled; style rather long.—*Styphelia blepharolepis*, F. Muell. Fragm. vi. 48.

W. Australia. Towards the Great Bight, *Maxwell*. The fringed or ciliate hypogynous scales are exceptional in the genus.

82. ***L. esquamatus*, R. Br. Prod. 546.** A bushy shrub, with erect branches, glabrous or minutely pubescent. Leaves erect, sometimes imbricate, lanceolate, rigid, tapering into a fine point, flat, mostly $\frac{1}{2}$ to $\frac{3}{4}$ in. long. Peduncles axillary, very short, bearing 1 or 2 flowers besides the rudiment. Bracts and bracteoles not half so long as the calyx. Sepals dry, obtuse,

above 1 line long. Corolla-tube very short; lobes exceeding the calyx, more than twice as long as the tube. Anthers attached a little above the middle, oblong, obtuse. Hypogynous disk entirely wanting. Ovary oblong, 2-celled; style filiform. Fruit oblong, compressed, nearly 2 lines long. DC. Prod. vii. 754; *Styphelia esquamata*, Spreng. Syst. i. 658; *L. fastigiatus*, Sieb.; G. Don, Gen. Syst. iii. 779; *Styphelia fastigiata*, Spreng. Syst. Cur. Post. 67; *Leucopogon appressus*, DC. Prod. vii. 754, not of R. Br.; *Phanerandra esquamata*, Stschegl. in Bull. Mosc. 1859, i. 20.

N. S. Wales. Port Jackson, *R. Brown*, *Sieber*, n. 108, and several others.

SERIES 4. PLANIFOLIE.—Leaves flat or slightly concave or convex, rigid, usually shining above, the veins fine or inconspicuous. Ovary 5-celled.

83. **L. cordifolius**, *Lindl. in Mitch. Three Exped.* ii. 122. A tall, bushy or spreading, much-branched shrub, glabrous or the branches pubescent. Leaves nearly sessile, spreading or reflexed, broadly ovate or orbicular, with a small rigid point or rarely quite obtuse, more or less cordate at the base, thick and rigid, flat or somewhat convex, finely veined underneath, mostly about $\frac{1}{4}$ in. diameter. Peduncles axillary, very short, with few, frequently only 2, flowers or a single one besides the rudiment. Bracts very small; bracteoles very obtuse, not half so long as the calyx. Sepals $1\frac{1}{2}$ to $1\frac{3}{4}$ lines long, dry, obtuse. Corolla-tube as long as the calyx; lobes about as long as the tube. Anthers attached above the middle, obtuse, without sterile tips, at length often reversed so as to appear quite exerted. Hypogynous disk large, lobed. Ovary 5-celled; style rather long. *L. rotundifolius*, *Sond.* in *Pl. Preiss.* i. 323, not of R. Br.; *Styphelia rotundifolia*, *F. Muell.* *Fragm.* vi. 45; *Acrotriche? latifolia*, *A. Cunn.*; DC. Prod. vii. 757.

N. S. Wales. Between Murray and Lachlan rivers, *Herb. F. Mueller.*

Victoria. On the Murray, *F. Mueller*; Wimmera, *Dallachy.*

S. Australia. Friendly Bay, Boston Point, *Wilhelmi*, from the Murray to St. Vincent's Gulf, *F. Mueller.*

W. Australia. Murchison river, *Oldfield.*

84. **L. rotundifolius**, *R. Br. Prod.* 546. A stout, erect, bushy shrub, glabrous or the branches minutely pubescent. Leaves erect or spreading, obovate or almost orbicular, obtuse or with a small callous point, tapering into a distinct petiole, flat or slightly concave, mostly 3 to 4 lines long. Peduncles axillary, exceedingly short, bearing 2 or 3 flowers or a single one besides the rudiment. Bracts minute; bracteoles very obtuse, not half so long as the calyx. Sepals 1 to $1\frac{1}{4}$ lines long, dry, obtuse. Corolla nearly 3 lines long, the lobes longer than the tube, at length revolute down to the calyx. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk rather long, crenulate. Ovary 5-celled, tapering into a rather long style.—DC. Prod. vii. 752; *Styphelia rotundifolia*, *Spreng. Syst.* i. 655.

W. Australia. Lucky Bay and Goose Island Bay, *R. Brown*, and (probably Lucky Bay), *Baxter*. *L. rotundifolius*, var. *oblongatus*, *Sond.* in *Pl. Preiss.* i. 324, may possibly be the short-leaved variety of *L. oxycedrus*; the buds in *Preiss's* specimens are too young to ascertain the proportion of the parts.

85. **L. planifolius**, *Sond. in Pl. Preiss.* i. 322. A bushy shrub, gla-

brous or the branches minutely pubescent. Leaves narrow-oblong or oblanceolate, with a short, callous point, contracted at the base or very shortly petiolate, flat or slightly convex, often glaucous underneath, in some specimens 3 to 4 lines, in others about $\frac{1}{2}$ in. long. Peduncles axillary, very short, erect, bearing 2 or 3 flowers. Bracts very small; bracteoles obtuse, not half so long as the calyx. Sepals 1 to $1\frac{1}{2}$ lines long, dry, almost acute. Corolla-tube rather shorter than the calyx; lobes scarcely so long as the tube. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous scales narrow, acuminate, free (at least in old flowers). Ovary 5-celled; style rather long. Fruit obovoid or oblong, about 3 lines long.—*L. megacarpa*, F. Muell. Fragm. iv. 102; *Styphelia megacarpa*, F. Muell. Fragm. vi. 32.

W. Australia. Swan River, *Draumond*, n. 30, *Preiss*, n. 415, Murchison river Oldfield.

86. ***L. ruscifolius***, *R. Br. Prod.* 545. Erect and bushy, glabrous or nearly so. Leaves from broadly obovate to oblong-elliptical, obtuse or acute, but always with a short, rigid point, contracted at the base, slightly concave, smooth and shining, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Peduncles axillary, very short, bearing 1 or 2 flowers besides the rudiment. Bracts very small; bracteoles broad, truncate with a minute point, not half so long as the calyx. Sepals nearly $1\frac{1}{2}$ lines long, broad but almost acute, striate. Corolla about 2 lines long, the lobes very acute, longer than the tube. Anthers attached near the top, obtuse, without sterile tips. Hypogynous disk large, truncate. Ovary broad, flat-topped, 5-angled or almost 10-ribbed, 5-celled; style short. Fruit ovoid-oblong, twice as long as the calyx.—*DC. Prod.* vii. 752; *Styphelia ruscifolia*, Spreng. Syst. i. 656.

Queensland. Cape York and Lizard Island, *McGillivray*; Endeavour river, *Banks and Solander*; Port Bowen, Percy Island, *A. Cunningham*.

87. ***L. imbricatus***, *R. Br. Prod.* 545. An erect shrub, of about $1\frac{1}{2}$ ft., with divaricate branches, usually glabrous. Leaves crowded, erect and often imbricate, sessile but often contracted at the base, obovate-oblong, obtuse, but with a fine rigid point, slightly concave, under $\frac{1}{2}$ in. long. Peduncles axillary, very short, bearing 1 or 2 flowers besides the rudiment. Bracts very small; bracteoles very broad, obtuse, not half so long as the calyx. Sepals $1\frac{1}{2}$ lines long, dry, obtuse. Corolla-tube as long as the calyx; lobes as long as the tube. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk crenate. Ovary 5- or sometimes 4-celled. *DC. Prod.* vii. 752; *Styphelia imbricata*, Spreng. Syst. i. 656.

Queensland. Northumberland Island, *R. Brown* (*Herb. R. Brown*). This species has much larger flowers than *L. ruscifolius*; and *L. cuspidatus*, which it otherwise resembles. *L. dasystylis*, *Sond.* in *Pl. Preiss.* i. 325, from the Paris Herbarium, appears to be the same as *L. imbricatus*, but the specimens I have seen are but fragments.

88. ***L. cuspidatus***, *R. Br. Prod.* 545. An erect or spreading much-branched shrub, from under 1 to 3 or 4 ft. high, glabrous or the branches minutely pubescent. Leaves oblong or oblanceolate, contracted at the base and almost petiolate, shortly tapering into a fine rigid point, flat, shining, 3 to 4 lines long. Peduncles axillary, very short, bearing 1 or 2 small flowers

besides the rudiment. Bracts very small; bracteoles broad, obtuse, not half so long as the calyx. Sepals 1 to $1\frac{1}{2}$ lines long, dry, acute or mucronate. Corolla nearly 3 lines long, the tube shorter than the calyx, the lobes longer than the tube. Anthers obtuse, without sterile tips. Ovary 5-celled; style rather long. Fruit ovoid, shortly exceeding the calyx.—DC. Prod. vii. 751; *Styphelia cuspidata*, Spreng. Syst. i. 657; *Aerofriche aristata*, Benth. in Hueg. Enum. 76; DC. Prod. vii. 757.

Queensland. Northumberland Islands, *R. Brown*; Percy Island, *A. Cunningham*; Rockhampton, *O'Shaughy*, *Dallachy*; Warwick, *Reckler*. Near *L. leptospermoides*, but readily known by the long fine point of the leaves and much longer flowers.

89. ***L. leptospermoides***, *R. Br. Prod.* 546. An erect bushy shrub of 2 or 3 ft., the branches hoary-pubescent or rarely glabrous. Leaves oblong-linear to linear-lanceolate, tapering into a short rigid or callous point, flat or nearly so, shining, mostly about $\frac{1}{2}$ in. long. Peduncles axillary, very short, bearing 1 or 2 flowers besides the rudiment. Bracts small; bracteoles about half as long as the calyx. Sepals about $1\frac{1}{2}$ lines long, mucronate but scarcely acute. Corolla scarcely above 2 lines long, the lobes as long as the tube. Anthers attached near the top, obtuse, without sterile tips. Hypogynous disk truncate, readily separable into distinct scales. Ovary 5-angled, 5-celled; style short.—DC. Prod. vii. 751; *Styphelia leptospermoides*, Spreng. Syst. i. 659.

Queensland. Harvey Bay, Sandy Cape, *R. Brown*; Moreton Island, *A. Cunningham*, *McGillivray*, *F. Mueller*; towards Darval, *Loehhardt*. Also apparently a variety, with very obtuse sepals, but the specimens in bud only from Rockhampton, *Dallachy*. The species closely resembles *L. melaleucoides* in foliage, but the inflorescence is axillary, not terminal. *L. pauciflorus*, *R. Br. Prod.* 546; DC. Prod. vii. 752; *Styphelia pauciflora*, Spreng. Syst. i. 658, appears to be a depauperated state of *L. leptospermoides*.

90. ***L. acuminatus***, *R. Br. Prod.* 545. A low spreading shrub, glabrous or the branches minutely pubescent. Leaves crowded, erect or spreading, linear-lanceolate, tapering into a fine pungent point and contracted into a short petiole, flat, under $\frac{1}{2}$ in. long. Peduncles axillary, very short, bearing 1 or 2 small flowers besides the rudiment. Bracts very small; bracteoles broad, not half so long as the calyx. Sepals scarcely 1 line long, minutely mucronate, dry, finely striate as in *L. ruscifolius*. Corolla-tube shorter than the calyx, the lobes slightly exceeding it. Anthers obtuse, without sterile tips. Ovary 5-celled. Fruit obovoid, almost truncate, twice as long as the calyx.—DC. Prod. vii. 751; *Styphelia acuminata*, Spreng. Syst. i. 659.

N. Australia. North coast, *R. Brown*, the precise station not recorded (*Herb. R. Brown*). The specimens are not very good. It may prove to be a narrow-leaved variety of *L. ruscifolius*; some specimens of a *Leucopogon* from the Moluccas appear to connect the two.

91. ***L. flexifolius***, *R. Br. Prod.* 546. A rigid shrub of 1 to 2 ft., with numerous erect branches minutely pubescent. Leaves very crowded, linear or linear-lanceolate, tapering into a fine point, flat or concave, but much twisted when dry as in *L. glacialis*, 2 to 4 lines long. Peduncles axillary, exceedingly short, bearing 1 or 2 very small flowers besides the rudiment. Bract very small; bracteoles about $\frac{1}{4}$ as long as the calyx, broad,

obtuse, minutely ciliate. Sepals scarcely above $\frac{3}{4}$ line long, obtuse, minutely ciliate. Corolla about 1 line long, the lobes as long as the tube. Anthers attached at the top, obtuse, without sterile tips. Hypogynous disk sinuate. Ovary 5-celled.—DC. Prod. vii. 754; *Styphelia flexifolia*, Spreng. Syst. i. 659.

Queensland. Shoalwater Bay, *R. Brown*.

92. **L. biflorus**, *R. Br. Prod.* 545. An erect shrub, with very spreading branches, sometimes very straggling, glabrous or minutely pubescent. Leaves oblong-linear or linear-lanceolate, with a fine and rigid but sometimes very short point, flat or convex, shining above, mostly under $\frac{1}{2}$ in. long. Peduncles axillary, exceedingly short, with two pendulous flowers or rarely only one besides the rudiment. Bracteoles not half so long as the calyx. Sepals about $1\frac{1}{2}$ lines long, acute but not narrow. Corolla-tube as long as the calyx; lobes nearly as long as the tube. Anthers attached about the middle, obtuse, without sterile tips. Hypogynous scales acuminate, distinct or slightly connate at the base. Ovary 5-celled; style rather long.—DC. Prod. vii. 751; F. Muell. Fragm. iv. 104; *Styphelia biflora*, Spreng. Syst. i. 659; *L. sparsus*, A. Cunn.; DC. Prod. vii. 751; *L. similis*, Sond. in Pl. Preiss. i. 321.

N. S. Wales. Port Jackson, *R. Brown*; Liverpool plains, *A. Cunningham*; Arbutnot Range, *Fraser*; Darling Downs, *F. Law, Mrs. Ford*.

Victoria. Between Fryers Creek and Elphinstone, Hailinger Range, Mount Barkly and Mount Ligar (from the latter localities seen in bud only), *F. Mueller*.

93. **L. setiger**, *R. Br. Prod.* 545. An erect bushy or straggling shrub, glabrous or the branches minutely pubescent. Leaves linear-lanceolate, tapering into a fine rigid point, flat or with recurved margins, shining above, mostly about $\frac{1}{2}$ in. long. Peduncles axillary, slender, 2 to 4 lines long, bearing 2 to 4 pendulous flowers or rarely only one besides the rudiment. Bracts very small; bracteoles not above $\frac{1}{2}$ line long. Sepals about 2 lines long, rigid, narrow, acute. Corolla-tube shorter than the calyx, the lobes as long as the tube. Anthers attached about or above the middle, obtuse without sterile tips. Hypogynous scales acuminate, free or shortly united. Ovary 5-celled.—DC. Prod. vii. 751; *Styphelia setigera*, Spreng. Syst. i. 659; F. Muell. Fragm. vi. 45.

N. S. Wales. Port Jackson to the Blue Mountains, *R. Brown, Sieber, n. 94*, and several others. F. Mueller unites this with *L. biflorus*, but the long peduncles and narrow sepals appear to me to be constant, and give it a very different aspect.

94. **L. exolasius**, *F. Muell. Fragm.* vi. 34. Branches pubescent. Leaves oblong-linear or lanceolate, tapering into a pungent point, with recurved or revolute margins, not exceeding $\frac{1}{2}$ in. Peduncles axillary, shorter than the leaves, mostly with 2 or 3 flowers. Bracts and bracteoles about $\frac{3}{4}$ line long. Sepals rather above 2 lines, rigid, narrow, acute. Corolla villous outside, the tube rather shorter than the calyx, the lobes nearly as long as the tube. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous scales lanceolate, acuminate, free or slightly connate at the base. Ovary 5-celled; style rather long.—*Styphelia exolasia*, F. Muell. Fragm. vi. 34.

N. S. Wales. Near Camden, *Leichhardt*. This is very closely allied to *L. setiger* differing in the more revolute leaves and in the hairs outside the corolla.

95. **L. Fraseri**, *A. Cunn. in Ann. Nat. Hist.* ii. 47, *not of DC.* A low diffuse or prostrate shrub, with short ascending or erect branches, glabrous or minutely pubescent. Leaves from oval-oblong and scarcely 2 lines long to linear-oblong and nearly $\frac{1}{2}$ in. long, abruptly contracted into a fine rigid point, flat or convex, shining above, striate underneath. Peduncles axillary, very short, bearing only a single flower besides the rudiment. Bracts minute; bracteoles not $\frac{1}{2}$ line long, broad with a minute point. Sepals about 1 line or rather more, acute. Corolla-tube broad, nearly 2 lines long, the lobes shorter. Anthers attached about the middle, obtuse, without sterile tips. Hypogynous disk deeply lobed. Ovary 5-celled, 5-angled; style rather long, usually hairy towards the base.—Hook. f. *Fl. Tasm.* i. 251, and Haendb. N. Zeal. *Fl.* 178; *L. nesophilus*, DC. *Prod.* vii. 752; *L. Belliguianus*, Raoul, *Choix*, Pl. N. Zel. 18. t. 12; *Pentachondra mucronata*, Hook. f. in Hook. *Land. Journ.* vi. 270; *L. Stuartii*, F. Muell.; Sendl. in *Linnæa*, xxvi. 249.

N. S. Wales. Mudgee road, Blue Mountains, *Woolfs*.

Victoria. Summit of Mount Wellington, dry banks of the Wombayn and Upper Genoa rivers, mountains on the Macalister and Mitta-Mitta, *F. Mueller*.

Tasmania. Hampshire hills, mouth of the Detention river, near Hobarton, Lake Elcho, *J. D. Hooker* and others.

The species is also in New Zealand. F. Muell. *Fragm.* iv. 105 and vi. 46, suggests its being a variety of *L. juniperinus*, but, besides the habit and foliage, the form of the flowers appears to me to be widely different. A. Cunningham had inadvertently, under the name of *L. Fraseri*, sent both this and *L. multiflorus* to De Candolle, who, not having the means of identifying the latter as Brown's species, selected it to represent Cunningham's name, whilst Cunningham, about the same time, but rather earlier in the precise date, published as *L. Fraseri* the New Zealand plant, for which the name must now be considered as fixed.

96. **L. hirtellus**, *F. Muell. Herb.* Branches and foliage hirsute with short spreading hairs. Leaves oblong-elliptical, tapering into a pungent point, flat or with recurved margins, 2 to 4 lines long. Peduncles axillary, very short, bearing 1 to 3 flowers. Bracts small, mucronate. Sepals $1\frac{1}{2}$ lines long, very acute. Corolla-tube about as long as the calyx, the lobes as long as the tube, mucronate-acute. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk short, truncate. Ovary ovoid, 5-celled; style rather long.

S. Australia. Encounter Bay, *Herb. F. Mueller, Whittaker in Herb. Hook.* Near *L. Fraseri*, but appears to be sufficiently distinct in indumentum, calyx, and disk; the specimens are, however, but few and small.

97. **L. ovalifolius**, *Sond. in Pl. Preiss.* i. 324. An erect bushy or straggling shrub of 1 to 2 ft., glabrous or the branches minutely pubescent. Leaves sessile, very spreading or reflexed, obovate-oblong, very shortly mucronate, convex, mostly 2 to 3 lines long. Peduncles axillary, very short and spreading or on luxuriant branches rather longer and recurved, bearing 2 or 3 flowers or only one besides the rudiment. Bracts minute; bracteoles not half so long as the calyx, obtuse or minutely mucronate. Sepals about 1 line long, dry, rather acute. Corolla 2 to $2\frac{1}{2}$ lines long, the lobes longer

than the tube, but erect at the base so as to appear like part of the tube. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk truncate or shortly lobed. Ovary 5-celled; style long and slender.

W. Australia. *Drummond*, 1st Coll. n. 483; sandy plain of Quangen, *Preiss*, n. 417; Murchison river, *Oldfield*.

98. **L. oxycedrus**, *Sond.* in *Pl. Preiss.* i. 321. A shrub of 1 to 2 ft., with erect or more frequently spreading branches, glabrous or minutely pubescent. Leaves linear oblong or oblanceolate, or when short almost obovate, shortly tapering into a small pungent point, narrowed at the base but usually sessile, flat or slightly convex, finely veined underneath, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Peduncles axillary, short, bearing 1, 2 or very rarely 3 flowers, spreading or recurved at the time of flowering, erect when in fruit. Bracts small; bracteoles broad, obtuse or minutely mucronate, not half so long as the calyx. Sepals nearly $1\frac{1}{2}$ lines long, dry, narrow, obtuse or almost acute. Corolla nearly 4 lines long, reddish outside, the tube considerably longer than the calyx, with the lobes erect at the base appearing like a continuation of it. Anthers attached about the middle or near the top, without sterile tips, but usually emarginate with 2 minute recurved points. Hypogynous disk truncate or toothed. Ovary 5-celled; style filiform. Fruit very obtuse, scarcely exceeding the calyx.—*L. rubicundus*, F. Muell. *Fragm.* iv. 102; *Styphelia erubescens*, F. Muell. *Fragm.* vi. 33; *L. racemulosus*, var. *pauciflorus*, *Sond.* in *Pl. Preiss.* i. 312.

W. Australia. King George's Sound or adjoining districts, *Baxter*; Lake Leven, Warriup hill, Mount Gardner, *Maxwell*; Murchison river, *Oldfield*; also *Drummond*, n. 123, 482.

Var. *brevifolius*. Leaves short.—Canning river, *Preiss*; Gordon plains, *Maxwell*, also *Drummond*, 5th Coll. n. 309.

In the flowers examined of the short-leaved specimens, I found the anthers attached near the top, the disk truncate and the ovary obtuse, whilst in the long-leaved specimens, the anthers were attached near the middle, the disk toothed and the ovary tapering into the style, but these differences may not prove constant.

99. **L. cuneifolius**, *Stechehl.* in *Bull. Mosc.* 1859, i. 18. An erect bushy shrub of several feet, glabrous or the branches scarcely pubescent. Leaves distinctly petiolate, from obovate to oblanceolate, obtuse or with a small callous point, flat or slightly concave, finely veined, mostly about $\frac{1}{4}$ in. long. Peduncles axillary, very short, bearing 1 or 2 erect flowers. Bracts very small; bracteoles very obtuse, scarcely $\frac{1}{3}$ as long as the calyx. Sepals about 1 line long, dry, obtuse. Corolla about $2\frac{1}{2}$ lines long, the tube considerably longer than the calyx, the lobes much shorter. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk obtusely lobed. Ovary 5-celled, shortly tapering into a style of moderate length.—*L. lissanthoides*, F. Muell. *Fragm.* iv. 101; *Styphelia lissanthoides*, F. Muell. *Fragm.* vi. 33.

W. Australia, *Drummond*, 5th Coll. n. 324; sandy flats on the Phillips river Ranges, *Maxwell*.

100. **L. strictus**, *Benth.* An erect rigid shrub, glabrous or nearly so. Leaves erect, oblong-lanceolate, tapering into a short rigid point, flat or very

slightly convex, finely veined and often glaucous or whitish underneath, under $\frac{1}{2}$ in. long. Peduncles axillary, exceedingly short, bearing 1 or 2 erect flowers usually longer than the leaf. Bracts very small; bracteoles very obtuse, about half as long as the calyx. Sepals about 1 line long, obtuse, often coloured at the end. Corolla-tube about 3 lines long, the lobes about 2 lines, erect at the base. Anthers attached near the top, very obtuse, without sterile tips. Hypogynous disk short, truncate. Ovary 5-angled, 5-celled; style long and slender.

W. Australia. Between Perth and King George's Sound, *Harvey*; between Moore and Murelson rivers, *Diamond*, 6th Coll. n. 123. The specimens much resemble those of the eastern *L. Mitchellii*, with similar long flowers, but the calyx is much smaller, besides other minor differences.

101. **L. Mitchellii**, *Benth.* A glabrous and often glaucous shrub of 2 to 3 ft. Leaves sessile, narrow oblong, abruptly contracted into a short, pungent point, flat or slightly concave, rarely $\frac{1}{2}$ in. long. Peduncles axillary, very short, bearing usually only 1 flower besides the rudiment or rarely 2 perfect flowers, which are large for the genus. Bracts minute; bracteoles very broad, truncate, not half so long as the calyx. Sepals nearly 2 lines long, dry, obtuse. Corolla-tube 3 to $3\frac{1}{2}$ lines long; lobes nearly 2 lines. Anthers attached about the middle, obtuse, without sterile tips. Hypogynous disk truncate. Ovary 5-angled, 5-celled; style long, the stigma sometimes very small, sometimes broad and peltate.—*L. cuspidatus*, *Mitch. Trop. Austr.* 225, 226, not of R. Br.

Queensland. Near Lake Salvador Rosa, *Mitchell*; in the interior, *Leichhardt*; Percy Island, *A. Cunningham*; Mount Hedlow, Rockhampton, *C. E. Porter*.

102. **L. juniperinus**, *R. Br. Prod.* 546. A divaricately branched shrub, with pubescent or hirsute branchlets. Leaves very spreading, linear or oblong-linear, with a fine rigid point and recurved margins, mostly under $\frac{1}{2}$ in. long. Peduncles axillary, very short, bearing usually a single flower, with a single subtending bract or sometimes 2 or 3 empty, very acuminate ones below. Bracteoles about $\frac{1}{2}$ line long, broad, obtuse, minutely mucronate. Sepals $1\frac{1}{2}$ to nearly 2 lines long, mucronate-acute. Corolla-tube slender, 3 to $3\frac{1}{2}$ lines long, the lobes very short. Anthers attached near the top, very obtuse, without sterile tips. Hypogynous scales distinct or slightly cohering. Ovary 5-angled, 5-celled; style elongated. Fruit oblong, 2 to $2\frac{1}{2}$ lines long.—DC. *Prod.* vii. 753; F. Muell. *Fragm.* iv. 104; Lodd. *Bot. Cab. t.* 447; *Styphelia juniperina*, Spreng. *Syst.* i. 658; F. Muell. *Fragm.* vi. 46; *Lissanthe strigosa*, Sieb. *Pl. Exs.*, not of R. Br.; *Leucopogon Sieberi*, DC. *Prod.* vii. 751; *Epacris villosa*, Cav. *Ic.* iv. 27. t. 347; DC. *Prod.* vii. 763 (from the figure and description).

Queensland. Brisbane river, Moreton Bay, *F. Mueller*.

N. S. Wales. Port Jackson, *R. Brown*, *Sieber*, n. 96, and several others.

Victoria? Upper Macalister river, *F. Mueller*. The specimens in fruit only, and therefore doubtful.

SERIES 5. CONCAVÆ.—Leaves concave or keeled.

103 **L. rufus**, *Lindl. in Mitch Three Exped.* ii. 179. An erect shrub

of 2 to 3 or rarely 1 ft., bushy or with divaricate, straggling branches, glabrous or pubescent. Leaves lanceolate to cordate-ovate, tapering into a pungent point, rigid, concave, finely striate, mostly about $\frac{1}{2}$ in. long. Peduncles axillary, exceedingly short, bearing 1, 2 or 3 flowers. Bracts few and small; bracteoles broad, obtuse, $\frac{1}{2}$ to $\frac{3}{4}$ line long. Sepals about 2 lines long, rigid, obtuse. Corolla-tube nearly as long as the calyx; lobes about as long, recurved. Anthers attached near the top, obtuse, without sterile tips. Hypogynous scales distinct, obovate, mucronate. Ovary oblong, 3-celled in all the specimens examined. Fruit ovoid or oblong, hard, 3 to 4 lines long.—*L. astrolonioides*, F. Muell.; Sond. in *Linnaea*, xxvi. 249; *Styphelia rufa*, F. Muell. Fragm. vi. 46.

Victoria. Grampian mountains, *Mitchell, Wilhelmi*; Mount Abrupt, dry, rocky hills between Broken and Owens rivers, *Futter's Range, F. Mueller*.

S. Australia. Marble Range, *Wilhelmi*; Lofty Range, Torrens and Onkaparinga rivers, Encounter Bay, *F. Mueller*; Kangaroo Island, *E. G. Sealy, Waterhouse*.

Tasmania. Lockwoods, *Bissell*; St. Arnaud, *Stair* (a fragment in Herb. F. Muell. with broader leaves than usual).

104. ***L. conostephioides*, DC. Prod. vii. 753.** An erect, straggling shrub of about 1 ft., glabrous or the branches minutely pubescent. Leaves erect or spreading, lanceolate or linear-lanceolate, rigid, tapering into a pungent point, concave, finely striate, $\frac{1}{4}$ to $\frac{1}{2}$ in. long. Peduncles axillary, short, usually spreading or recurved, 1- to 3-flowered. Bracts minute; bracteoles about $\frac{1}{3}$ as long as the calyx. Sepals fully $1\frac{1}{2}$ lines long, obtuse or shortly mucronate, dry and smooth. Corolla about 3 lines long, the lobes as long as the tube. Anthers linear, attached about the middle, obtuse, without sterile tips. Hypogynous scales distinct or scarcely adhering, narrow ovate, acuminate. Ovary striate, 2- or 3-celled, usually glabrous; style long and slender, glabrous or slightly hairy.—Sond. in *Pl. Preiss.* i. 321; *L. rigidus*, A. Cunn.; DC. *Prod.* vii. 753; *Styphelia conostephioides*, F. Muell. Fragm. vi. 34.

W. Australia. King George's Sound and adjoining districts, *Baxter, Maxwell*, thence to Swan River, *Harvey, Drummond*, 1st *Coll. n.* 16, 479, *Preiss, n.* 405, and Murchison river, *Oldfield*. Very nearly allied to *L. rufus* and to *L. deformis*, and almost intermediate between the two.

105. ***L. deformis*, R. Br. Prod. 546.** A straggling shrub, with wiry branches like those of *L. virgatus*, and similar foliage, but the inflorescence of *L. rufus*. Leaves erect or spreading, linear or linear-lanceolate, tapering into a short point, rigid, concave, finely veined, 2 to 3 lines long. Peduncles axillary, exceedingly short, bearing usually a single flower besides the rudiment. Bracts very small; bracteoles broad, acute, ciliolate, not half so long as the calyx. Sepals $1\frac{1}{2}$ lines long, dry, acute, minutely ciliolate. Corolla shortly exceeding the calyx, the lobes as long as the tube. Anthers attached about the middle, obtuse, without sterile tips. Hypogynous disk readily separating into obtuse scales. Ovary densely villous, 3-celled; style long and slender.—DC. *Prod.* vii. 754; *Styphelia deformis*, Spreng. *Syst.* i. 658.

N. S. Wales. Moist Leaths, Sydney and Botany Bay, *R. Brown*. This species, which I have seen in no other collection, is allied to the two preceding ones, but more slender, with smaller flowers, and a very villous ovary.

106. **L. pogonocalyx**, *R. Muell. Herb.* An erect shrub, with virgate branches, glabrous or minutely pubescent. Leaves erect, ovate or ovate-lanceolate, rigid, with a short pungent point, concave, strongly striate underneath, 2 to 3 lines long. Peduncles axillary, short, bearing 2 or 3 erect flowers. Bracts and bracteoles broad, obtuse, about $\frac{1}{2}$ as long as the calyx. Sepals 1 line long, obtuse, fringed at the end with prominent cilia. Corolla about 2 lines long, the lobes as long as the tube, very densely bearded with white hairs as in most species of the section *Perajoa*. Anthers attached at the top, obtuse, without sterile tips. Hypogynous scales distinct or slightly cohering. Ovary 3-angled, 3-celled; style very short.

W. Australia. Mount Manypeak, *Maxwell*.

107. **L. breviflorus**, *P. Muell. Fragm.* iv. 102. A glabrous shrub of about 1 ft. Leaves from oblong-lanceolate to linear-lanceolate, shortly tapering into a fine rigid point, contracted into a short petiole, rigid, concave or nearly flat, smooth, with scarcely prominent veins, 2 to 4 lines long. Peduncles axillary, very short, bearing 1 or 2 erect flowers. Bracts very small; bracteoles very obtuse, about half as long as the calyx. Sepals dry, obtuse, about 1 line long. Corolla 2 lines long, the lobes longer than the tube. Anthers attached near the top, obtuse, without sterile tips. Hypogynous scales nearly free, shortly acuminate or toothed. Ovary 5-celled; style rather long. Fruit pendulous, obovoid, very obtuse, not exceeding the calyx.

W. Australia. Israelite Bay, *Maxwell*; rocky declivities of Stirling Range, *F. Mueller*. Allied to *L. conostephioides* and *L. cuneifolius*. Differs from the former in its less concave leaves and 5-celled ovary; from the latter in the more concave, narrow acute leaves, short corolla-tube, etc.

108. **L. durus**, *Benth.* A stout, rigid, glabrous shrub. Leaves oblong, linear or lanceolate, with a short, rigid, almost pungent point, contracted into a short petiole, thick and concave, smooth, without prominent ribs, 2 to 4 lines long. Peduncles axillary, exceedingly short, bearing 1, 2 or 3 very small flowers. Bracts and bracteoles exceedingly small. Sepals about $\frac{1}{2}$ line long, very obtuse. Corolla $1\frac{1}{2}$ lines long, the lobes about as long as the tube. Anthers attached at the top, obtuse, without sterile tips. Hypogynous disk separating into obtuse scales. Ovary broad, 5-celled; style very short. Fruit depressed-globular, 1 to $1\frac{1}{4}$ lines diameter.

W. Australia, *Drummond*, 5th Coll. n. 297.

109. **L. multiflorus**, *R. Br. Prod.* 542. A stout, rigid shrub, with pubescent branches. Leaves crowded, erect or scarcely spreading, linear-lanceolate or lanceolate, tapering into a pungent point, concave, finely veined, mostly about $\frac{1}{2}$ in. long. Peduncles axillary, short, bearing usually 3 or 4 or even more flowers. Bracts and bracteoles very obtuse, not half so long as the calyx. Sepals about 1 line long, narrow but obtuse, ciliate with short, almost woolly hairs. Corolla about 2 lines long, the lobes as long as the tube. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk lobed, readily separating into acuminate scales. Ovary 5-celled; style rather long.—DC. *Prod.* vii. 746; *Styphelia multiflora*, Spreng. *Syst.* i. 658 (not of *F. Muell. Fragm.* vi. 32, which is *L. Gilbertii*); *L. Fraseri*, *A. Cunn.* in DC. *Prod.* vii. 753 (not of *Ann. Nat. Hist.*).

W. Australia. Lucky Bay, *R. Brown, Baxter.*

Var. *obtusius*. LEAVES narrower, very rigid. Sepals almost acute, not ciliate. Corolla-tube shorter.—*Drummond.*

110. **L. appressus**, *R. Br. Prodr.* 546. An erect shrub of 1 to 2 ft., glabrous or the branches minutely pubescent. Leaves lanceolate or ovate-lanceolate, tapering into a fine pungent point, minutely denticulate-ciliate, rigid, very concave, imbricate, mostly about 3 lines long. Peduncles axillary, exceedingly short, bearing 1 to 3 small flowers. Bracts minute; bracteoles broad, mucronate, not half so long as the calyx. Sepals about 1 line long, obtuse. Corolla very shortly exceeding the calyx, the lobes longer than the tube. Anthers attached near the top, without sterile tips. Hypogynous disk lobed. Ovary 5-celled; style short, glabrous.—*Styphelia appressa*, Spreng. Syst. i. 658.

N. S. Wales. Port Jackson, *R. Brown*. Not seen in any other collection. The plant sent by A. Cunningham to De Candolle, and described by him as *L. appressus*, does not differ from *L. esquamatus*.

111. **L. neoanglicus**, *F. Muell. Herb.* An erect, very rigid shrub of 1 to 2 ft. Leaves oblong or lanceolate, acuminate, with a fine pungent point, quite entire, rigid, concave, imbricate or rarely spreading, mostly 3 to 4 lines long. Peduncles axillary, exceedingly short, bearing 1 or rarely 2 or 3 flowers. Bracts minute; bracteoles broad, mucronate, not half so long as the calyx. Sepals 2 lines long, very acute. Corolla-tube as long as or slightly exceeding the calyx; lobes shorter than the tube. Anthers attached about the middle, obtuse, without sterile tips. Hypogynous disk lobed or separating into distinct scales. Ovary 5-angled, 5-celled; style long, usually hairy; stigma peltate.

Queensland. Stradbroke Island, *Fraser.*

N. S. Wales. New England, *C. Stuart.*

This may possibly prove a variety of *L. appressus*, but the flowers, especially the calyx, are twice the size, the form of both sepals and corolla different, besides the differences in the style, which do not appear, in this instance at least, to be due to dimorphism as they may possibly be in some, but I believe very few, *Epacrideæ*.

112. **L. obtectus**, *Benth.* A shrub of 1 to 2 ft. or perhaps more, with few long, erect branches completely covered by the glaucous foliage. Leaves broadly cordate-ovate or orbicular, mucronate, rigid, concave, erect, imbricate, 4 to 6 lines diameter. Peduncles axillary, very short, bearing 2 to 3 flowers not exceeding the leaves. Bracts small; bracteoles not half so long as the calyx, broad, mucronate. Sepals nearly 2 lines long, lanceolate, acute. Corolla-tube nearly as long as the calyx; lobes rather shorter. Anthers linear, attached above the middle or near the top, obtuse, without sterile tips. Hypogynous disk deeply lobed or separating into distinct scales. Ovary 5-celled.

W. Australia. Between Moore and Murchison rivers, *Drummond*, 6th Coll. n. 125.

113. **L. crassiflorus**, *F. Muell. Fragm.* vi. 40. Apparently erect and not much branched, attaining 1 or 2 ft., glabrous or the branches minutely pubescent. Leaves broadly obovate or orbicular, very obtuse, erect, very

concave and embracing the stem at the base, slightly spreading at the end, mostly about 1 line or the larger ones $1\frac{1}{2}$ lines diameter. Peduncles in the uppermost axils, very short, bearing 1 or rarely 2 flowers besides the rudiment, forming a short, terminal, leafy corymb or cluster, sometimes reduced to a single flower. Bracts small, keeled; bracteoles nearly 1 line long, broad, obtuse or very shortly acuminate. Sepals about 2 lines long, broad, with shortly mucronate or almost obtuse often spreading tips, rigid, minutely striate. Corolla nearly 3 lines long, the lobes rigid, acutely acuminate, longer than the tube. Anthers attached above the middle, tipped by 2 short, acuminate lobes, but without the sterile tips of *Peroja*. Hypogynous disk lobed. Ovary short, 10-ribbed, 5-celled; style slender.—*Styphelia crassiflora*, F. Muell. Fragm. vi. 40.

W. Australia. Between Moore and Murchison rivers, *Drummond*, 6th Coll. n. 120.

114. **L. strongylophyllus**, F. Muell. Fragm. iv. 101. An erect shrub of 2 to 5 ft., glabrous or the branches minutely pubescent. Leaves rather crowded, erect or spreading, obovate or orbicular, obtuse or with a minute callous point, concave, prominently striate, contracted into a distinct petiole, 1 to 2 lines diameter. Peduncles axillary, short, erect or at length recurved, bearing 1 or 2 flowers. Bracts minute; bracteoles broad, obtuse, not half so long as the calyx. Sepals about 1 line long, dry, almost acute. Corolla about 2 lines long, the lobes longer than the tube, but erect at the base. Anthers attached above the middle, obtuse, without sterile tips. Hypogynous disk minutely toothed. Ovary 5-celled; style long and slender.—*Styphelia strongylophylla*, F. Muell. Fragm. vi. 33.

W. Australia. Sandy plains, Murchison river, *Oldfield*.

115. **L. crassifolius**, Sond. in Pl. Preiss. i. 316. An erect, bushy shrub of about 2 ft. Leaves erect, oblong-linear, obtuse or with a minute callous point, rather thick, concave, with about 3 ribs prominent underneath, contracted into a short petiole, 2 to 4 lines long. Peduncles axillary, rather short, few-flowered. Bracts small; bracteoles obtuse, about half as long as the calyx. Sepals scarcely above $\frac{3}{4}$ line long, rather thin, ciliate, obtuse, with the tips often recurved. Corolla about $1\frac{1}{2}$ lines long, the lobes as long as or longer than the tube. Anthers attached at the top, obtuse, without sterile tips. Hypogynous disk truncate, readily separating into distinct seeds. Ovary 5-celled; style rather long. Fruit obovoid, erect, about $1\frac{1}{2}$ lines long.—*Styphelia crassifolia*, F. Muell. Fragm. vi. 33.

W. Australia. Konkoberup hills, Cape Riche, *Preiss*, n. 386; Cape le Grand and in the interior from Cape Paisley, *Maxwell*. In several of the specimens a few flowers may be met with, probably diseased, having a longer tube to the corolla, and an elongated, apparently barren, ovary, with a short style. This and the following species, without a close examination, might easily be confounded with *L. flavescens*.

116. **L. corynocarpus**, Sond. in Pl. Preiss. i. 322. An erect, slender but rigid shrub, of 2 or 3 ft. Leaves erect, oblong-linear, obtuse or with a minute callous point, concave, with about 5 slightly prominent ribs underneath, contracted into a short petiole, 2 to 4 lines long. Peduncles axillary, short, bearing 2 or 3 erect flowers. Bracts small; bracteoles obtuse, not

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